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ABSTRACT

This publication brings together some recent examples of what the Commission believes to be noteworthy open space schools. In addition, the Commission has drawn from its own experiences with the planning, design, and construction of open space schools. The material serves to call attention to the development of open space, to offer a few suggestions that might prove helpful, and to give a report on the state of the art. The text is amply supported by photographs and sketches. (Photographs may reproduce poorly.) (Author/EA)

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foreword

As time marches on—perhaps gallops is a better word—what's become of the little red schoolhouse? Well, it, too, has gotten with it, has lost a great deal of its rigidity that served the past well, but is unequal to the present. Parents are demanding more and better opportunities for their children, and teachers and school planners are hard at work developing programs increasingly focusing on the individual learner. Only someone with blinders on both eyes could miss the new look in learning spaces and their change of pace and activity. The term *classroom* itself has become a kind of anachronism; there's no wall there to attach the blackboard to, and the furniture, no longer tacked down, is scattered hither and yon. Recitations have given way to group discussion, rote learning to fact seeking, teacher domain to differentiated staffing.

AASA is pleased to bring together in this publication some recent examples of what the Commission believes to be noteworthy open space schools. The Commission, further, has set down its thoughts, drawn from its own experiences with the planning, design, and construction of open space schools. Its purpose has been to call attention to the development of open space, to offer a few suggestions that might prove helpful, and to give a sort of report on the state of the art. No attempt at final answers was sought or intended. Rather, the purpose of this publication is to mark what perhaps is a milestone, to give some direction for one possible course, and to encourage the continual search for improvement.

Forrest E. Conner
Secretary Emeritus

acknowledgments

The American Association of School Administrators expresses its appreciation to the members of the Commission on Open Space Schools who gave so generously of their time and talents in the preparation of this publication. The Commission, in turn, wishes to thank the many people throughout the nation who provided materials, plans, and photographs. Identification of illustrations and credits can be found on page 111.

Special acknowledgment from the Commission is due William H. Curtis for suggestions and contributions to the text of this publication.

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commission on
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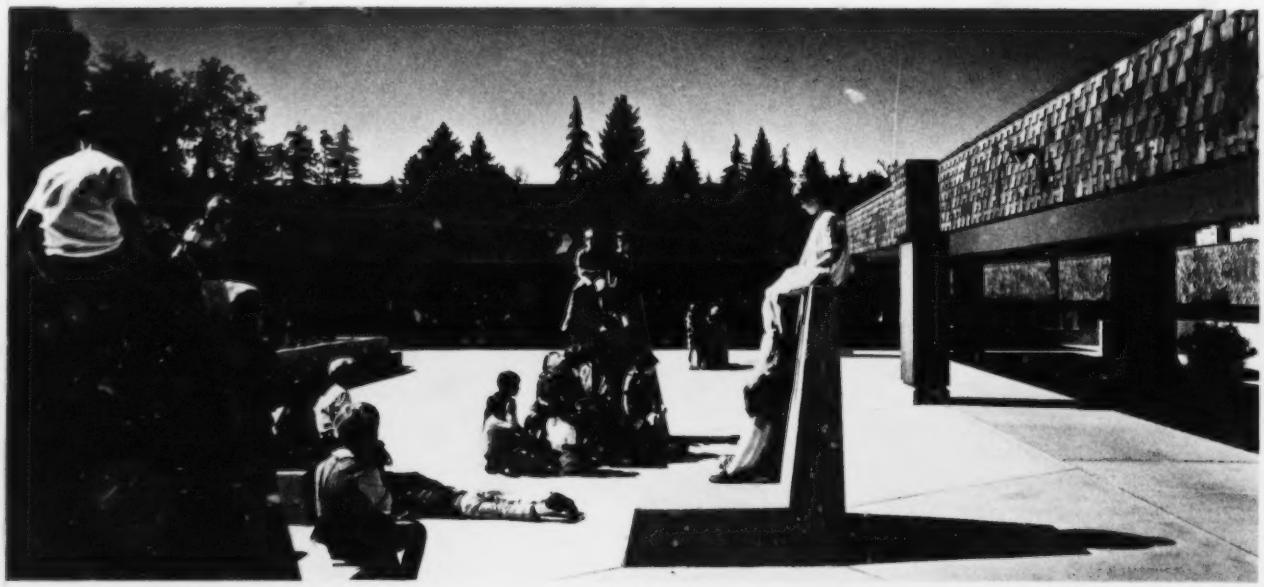

why open space

The spotlight in education is on the learner. He is taking his rightful place at the center of the stage. Although for many years psychologists and teachers have spoken eloquently about individual differences among pupils, although curriculum builders and principals have written profusely about adapting the instructional program to individual needs, and although administrators and architects have professed their commitment to a child-centered school, when it came down to the brass tacks of planning a school plant, too often the pupil as an individual was all but forgotten. Though they were thoughtful, well-intentioned, and considerate, planners tended to think in terms of groups of children—30 pupils and a teacher in a neatly circumscribed space.

Recently, however, real attempts have been made to break the "lockstep" of traditional patterns in favor of programs that are designed to produce a set of outcomes—to achieve certain objectives expressed as specific changes in characteristics of the learners. As school districts are increasingly focusing their prime attention on the learner, continuous progress (nongraded) programs are developed for each individual; the team or cooperative approach to staff utilization is inaugurated; differentiated staffing is adopted; flexibility in space, facilities, and materials is provided; and the learner's program alternatives are designed to provide flexibility in the use of his time for individual or independent study, for small group discussions, and for large group activities. Programs are being planned to meet the unique needs of each learner, to help him reach his particu-

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[1] American Ass
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Recently, however, real attempts have been made to break the "lockstep" of traditional patterns in favor of programs that are designed to produce a set of outcomes—to achieve certain objectives expressed as specific changes in characteristics of the learners. As school districts are increasingly focusing their prime attention on the learner, continuous progress (nongraded) programs are developed for each individual; the team or cooperative approach to staff utilization is inaugurated; differentiated staffing is adopted; flexibility in space, facilities, and materials is provided; and the learner's program alternatives are designed to provide flexibility in the use of his time for individual or independent study, for small group discussions, and for large group activities. Programs are being planned to meet the unique needs of each learner, to help him reach his particular goals, and to develop his own full potential. These programs require more effective identification and allocation of resources. The term *resources* as used here is to be considered in the broadest sense. Not only does it include dollars, people, and time, but also a most important environmental resource: facilities that are responsive to the changing needs of the learner.

long-range goals

The ultimate goal of American education has been and is to give to every individual the chance to achieve his highest potential for living a good, rewarding, and useful life. The open space school is one tool for reaching this goal. It provides the fluidity of space to foster an individualized learning environment and to encourage development of individual differences. It encourages the nurturing and growth of the talents of each of its students—whether they are in the field of literature, science, arts, or humanities. And it supports the birthright of each to pursue his own dreams and to realize his full potential.

> "The public schools are committed to serving all young people—the gifted, the average, and the less academically talented. All are important; each has an inalienable right to do the best he is capable of doing; and to the extent that anyone fails to develop his full potential and to use it for worthy purposes the country is weaker and democracy has fallen short of achieving its high purpose. To design and support an educational program that will serve them all—not in the same way, but in ways adapted to their different capabilities and needs—is a challenge to all people who have responsibility for planning, supporting, and operating an educational program.[1]"

Change and innovation in the educational process are not necessarily dependent on a particular type of facility. However, a review of many of the more recent educational requirements for new and renovated facilities calls for designs that will be responsive to change. An approach to program planning and development with its prime emphasis on the learner, his needs, and his progress as an individual seems to suggest the desirability of having him work in a climate that is free of the usual constraints common to so many existing facilities.

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[1] American Association of School Administrators. *Imperatives in Education.* Washington, D.C.: the Association, 1966. p. 2.

individualized programs

In the continuing search for means to achieve the ultimate goal, schools are offering a wide variety of opportunities to children and young people, encouraging a free and open atmosphere for learning, and seeking further ways to nurture talents that might otherwise lie dormant and undeveloped. All children are eager. They want to learn. At least, they start out in the early years wanting to learn. Along the way for some reason or other some get "turned off," lose their enthusiasm. Perhaps the class as a whole doesn't move fast enough for a particularly bright student in, say, mathematics, or maybe he just can't understand or see any reason for parsing sentences and would rather express himself by drawing cartoons. In any event, his own educational program, if he is to believe in it, to profit by it, and to be enthusiastic to continue it, must make sense to him.

Open space schools provide one kind of a setting, when properly used and staffed, in which Johnny may learn to read, to write, to draw, to compute, to reason, to understand, to plan, to search, to explore, and to discover at his own pace, when he is ready, and as his needs require.

> "A nine-year-old with a head for figures like Bernard Baruch's may be a deadhead when it comes to tangling with a dangling participle. He may play three instruments by ear and be deaf to the subtler distinctions between French vowels. However uneven his attainments, there is a group within the open room working on his level in each subject, and a teacher to go with it. If he is a slow learner, he may stay with the same group for months. If he learns rapidly, he can move from week to week to a group at a more advanced level of achievement. When he moves, the move is an easy one: around a cabinet or across to another cluster of pupils a few yards away. There is no need for adjusting to a new teacher, new classmates, a different room.[2]"

food for thought

The open school serves up to its students a kind of smorgasbord of opportunities and encourages them to partake of a great variety of palate teasers, staples, entrées, side dishes, spices, soul food, and sweetmeats. Any student who is not offered a well-rounded diet and who doesn't have his full share is a deprived child. He is entitled to the offering of a great variety, to suit his own tastes and to satisfy and nourish his appetite. Along the way he also is encouraged to partake of many new and different dishes which he otherwise may not have been inclined to try. One school district's planning official, in describing their new open space middle school, provided this bill of fare:

> "When you realize that a souffle is really the culmination of a beautiful chemical experiment; and it is assigned to two or more children to bake together; they copy down the recipe from video-tape—in French; they halve the recipe; they shop for ingredients; they bake it in a ceramic souffle bowl that they made in class; and they share in its consumption with their teacher—why go one place for French; another for English; another for Math; another for Social Studies; and all through the gamut of the learning experience. Therefore, all 125 student residents can do virtually anything that they desire to do; fulfill a contract, perform any task, and solve almost any problem within the pod itself. Each cluster will be all things to all of its students all day with the exception of organized sports and music.[3]"

toward completion

Like all innovations, the step to an open space school, with all its ramifications for planning and coordinating between and among members of the staff who will ultimately be responsible for
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[2] Educational Facilities Laboratories. *Schools Without Walls.* New York City: the Laboratories, 1965, p. 5.

[3] LaRowe, John E., unpublished paper describing Martin Luther King, Jr. Middle School, Atlanta, Georgia Public Schools, May, 1970.

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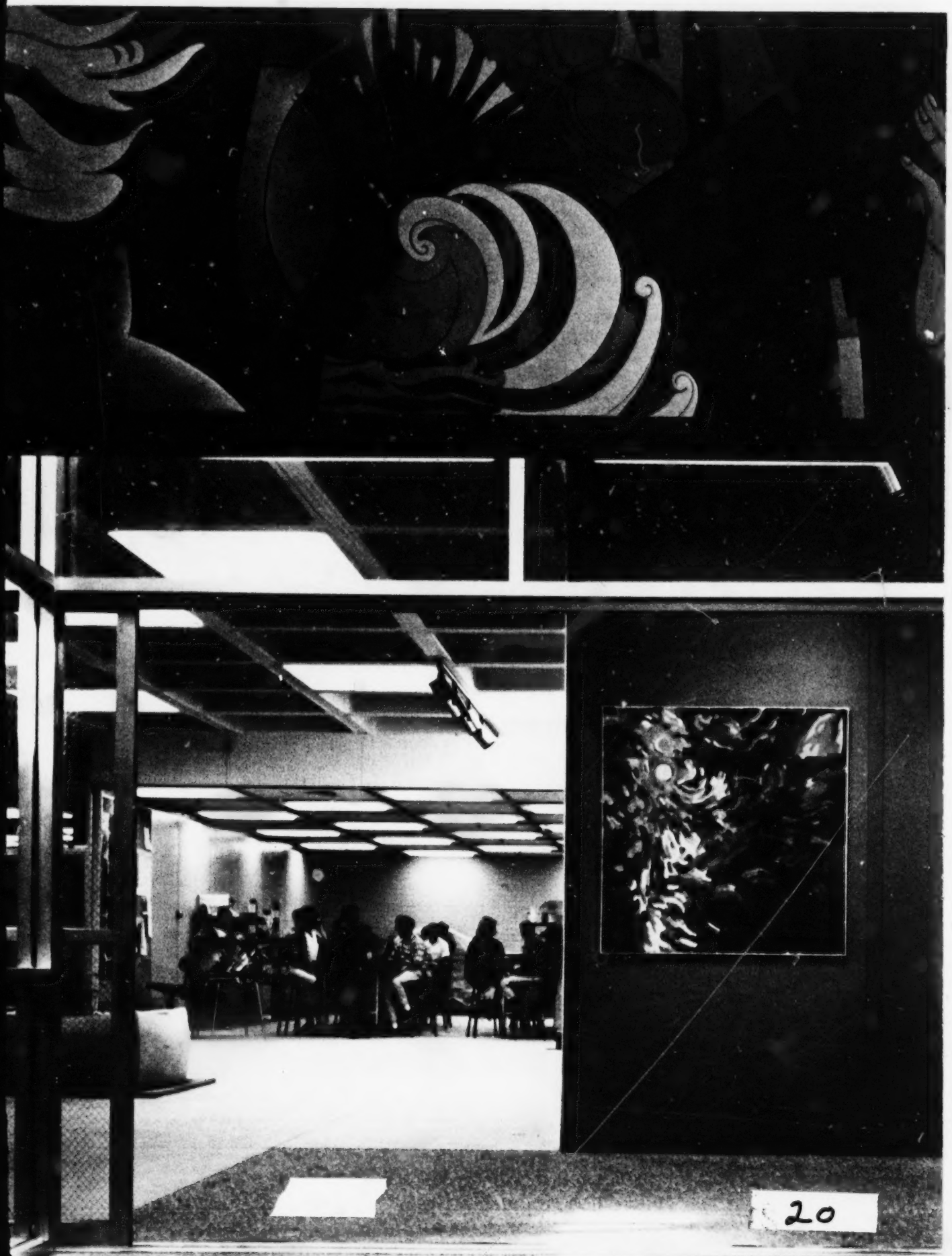
toward completion

Like all innovations, the step to an open space school, with all its ramifications for planning and coordinating between and among members of the staff who will ultimately be responsible for its program structure is not an easy one. Program planning, and evaluating, even just understanding individual programs, is a monumental task at best. Working with other professionals, paraprofessionals, and aides in developing and sustaining a program that meets the requirements of each individual student takes determination, dedication, perseverance, and team spirit. And gaining support of the parents and other citizens in the community requires patience and persistence. But the open space school does provide one means—an effective means—of facilitating individualized learning. It does provide flexibility for still unknown future changes in educational programs. It does create a more spacious and more adaptable, a less restrictive and less rigid learning environment. It does encourage a more fluid kind of teaching and learning process.

The open space school, when thoughtfully planned, properly staffed, and confidently run, will serve as an important thrust in moving toward the realization of education that truly serves each individual girl and boy in his own pursuit of learning.

[3] LaRowe, John E., unpublished paper describing Martin Luther King, Jr. Middle School, Atlanta, Georgia Public Schools, May, 1970.



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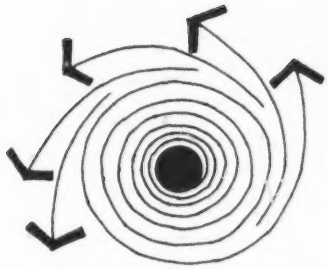
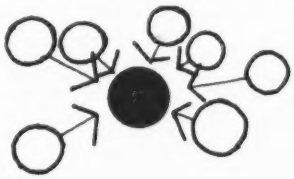
Opinion varies. To some, an open space school means vast, wide-open areas of undivided space. Others envision it as a group of classroom clusters or pods which are open within themselves but not to each other. When you get right down to it, who can say that merely opening an operable partition between two standard classrooms does not create open space? Obviously, then definitions are broad and varied. But a fairly definitive description may help to clarify the open space school as discussed here.

Perhaps the way to begin is to establish some basics—things that really bear heavily on school design. Essential facts.



education is dynamic

First, education, if it is to do its job effectively, must relate to the needs of the broad society that it serves. More than ever before, present-day society is dynamic, in a state of rapidly escalating change. If society changes, so must education—in content, method, and concept. Education is dynamic.



facilities are shaped by program

Next, educational facilities exist primarily for the purpose of serving the educational programs they house. If they are worth their salt, facilities must accommodate the educational program.

buildings are used many years

Schoolhouses, though, must serve for many years. This is an economic fact of life. Unlike the paperback book which can easily be discarded after a relatively short time, "throwaway" schools have not yet been invented.

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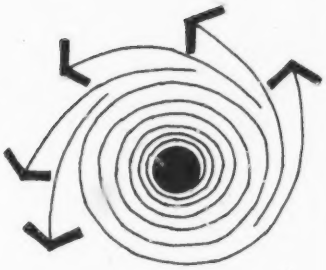

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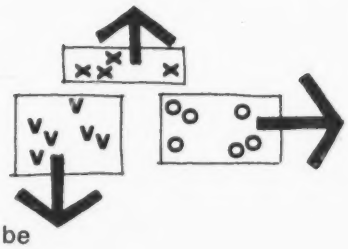

buildings must be
capable of change

Most school buildings are destined to either serve or limit educational programs for 50 to 100 years. The dilemma then is how to make buildings, which are long-term commitments in steel and brick, and dollars and cents, serve ever-changing educational programs. The solution is obvious. Buildings must be capable of change. They must be as dynamic as education is.

The Open Space Concept

Open space is dynamic. Given proper furniture and equipment, the configuration of open space can change almost instantly. Occupants—both pupils and teachers—can literally flow from one place to another, from a large group activity to individual study, from bustle to quiet. But this flow can be effective only if the open space is acoustically appropriate and is designed with enough sensitivity that it becomes an appealing and human environment for learning.

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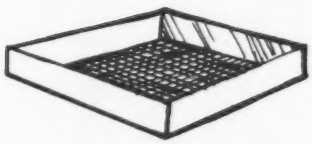


build a large open space with no fixed interior elements. . . .

Getting right down to business and open space in its simplest form, the point of beginning might be a box—a floor, a ceiling, and four walls. Essentially, that is open space. Some simply stop there. They use their box as totally undivided open space.

2

operable partitions

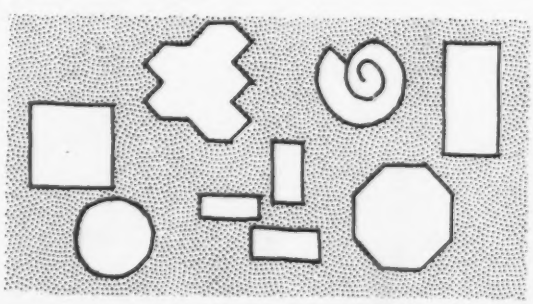
demountable partitions

rolling cabinet or screen units

. . . and using group of flexible space dividers. . .

Most, however, feel the need of some kind of division of the open space. They select from a wide array of space dividers—full height partitions, either operable or demountable; rolling cabinets or screens of various kinds; or simply loose furniture that can be shifted about from place to place.

size and shape of open spaces are variable



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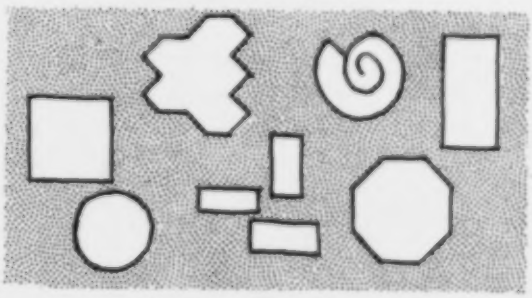

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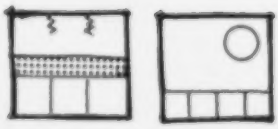

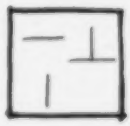

. . . divide or shape the open space to fit the program

With the use of these dividers, building occupants can shape and reshape their open space at random. The speed of change depends on the kind of dividers they choose.

The open space box need not be square. It can be almost any shape—rectangular, round, oval, six-sided, eight-sided, zigzag, shaped like a snail. Almost anything. And its size is variable. It may be a huge arena or it may be smaller areas. It may be open full time or just part time.

Open space is what you want it to be. How's that for flexibility?

Generally, open space schools are not *all* open space. After all, it's carrying things a bit far for a toilet or shower room to be in open space. Custodians like to hang their mops in closets, too. So in open space schools there are some closed spaces—some spaces that are committed to serve single or specified purposes.

For the most part, open space schools are much like most other good schools. The major difference is that in traditional schools, all space is committed space. It is divided into rooms pretty much on a permanent basis. In open space schools some space is not committed. Secondary schools are likely to have more committed space than elementary schools. They are basically more complex in nature. Examples of committed and uncommitted spaces are identified below. There is room for argument in the assignment of some spaces—so the reader has the prerogative of doing his own shuffling between categories. Many spaces are committed because of their relationships with the building's utilities systems. Others are committed because of the need for privacy or because they accommodate noisy or odorous activities—for example music rooms or chemistry labs.

uncommitted open spaces

These spaces are frequently designed as flexible, open, uncommitted spaces:

elementary schools

general
  learning areas
instructional
  materials centers
dining halls
circulation
  spaces

secondary schools

learning areas for
  language arts
  social studies
  mathematics
instructional materials centers
resources centers
dining halls
circulation spaces

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resources centers
dining halls
circulation spaces

committed spaces

The following spaces are frequently considered to be self-contained spaces which are committed to serving a special function or functions:

elementary schools

boiler rooms
mechanical equipment rooms
custodial spaces
toilet rooms
stairways
kitchens
multi-purpose gymnasiums
music rooms
kindergarten areas
health suites
administrative office suites

secondary schools

boiler rooms
mechanical equipment rooms
custodial spaces
toilet rooms
stairways
kitchens
gymnasiums
locker rooms
swimming pools
music rooms
lecture auditoriums with sloped floors

middle ground

Several space categories are in a sort of "middle ground." Some educators want them open, and some feel they should be more permanently divided. Sometimes they are made up of open spaces within a committed area.

elementary schools

administrative office suites
kindergartens
dining halls

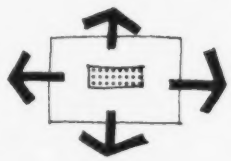
secondary schools

foreign language units
vocational shops
administrative office suites
counseling units
home economics suites
physical sciences labs
typing / business machine units
dining halls

Space Relationships

1

core plan
single building



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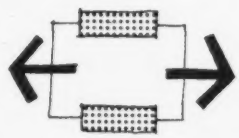
perimeter plan
single building



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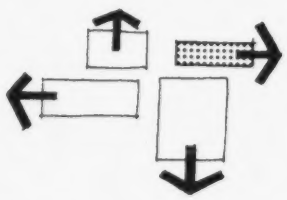
fragmented plan
multiple building



key

open (uncommitted) space

committed space

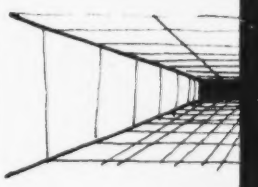
expansion potential

Again, at the risk of oversimplification, there are many ways of relating committed and uncommitted spaces in the total building floor plan. Sometimes relationships are influenced by the need to plan for future expansion of the building. Indeed, future building expansion should always be of prime concern when planning schools of any kind.

So much for the open space school as a functional environment. How about the visual aspects? There is little about open space that causes the exterior architecture to be vastly different. Reduced glass area—a frequent feature of open spaces—can be an exterior design factor, but this is often compensated for by placing windows in committed spaces. All things considered, the architect finds many design opportunities with the exterior of the open space school.

non architectur

acres of floor and
flat and dull, dull,



architecture

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Space Relationships

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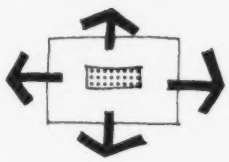

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perimeter plan
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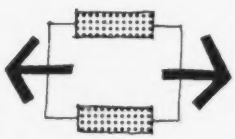

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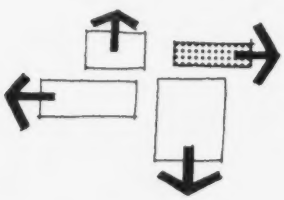

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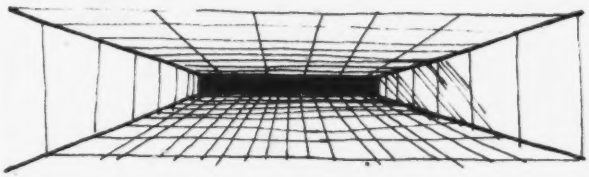
non architecture

acres of floor and ceiling
flat and dull, dull, dull

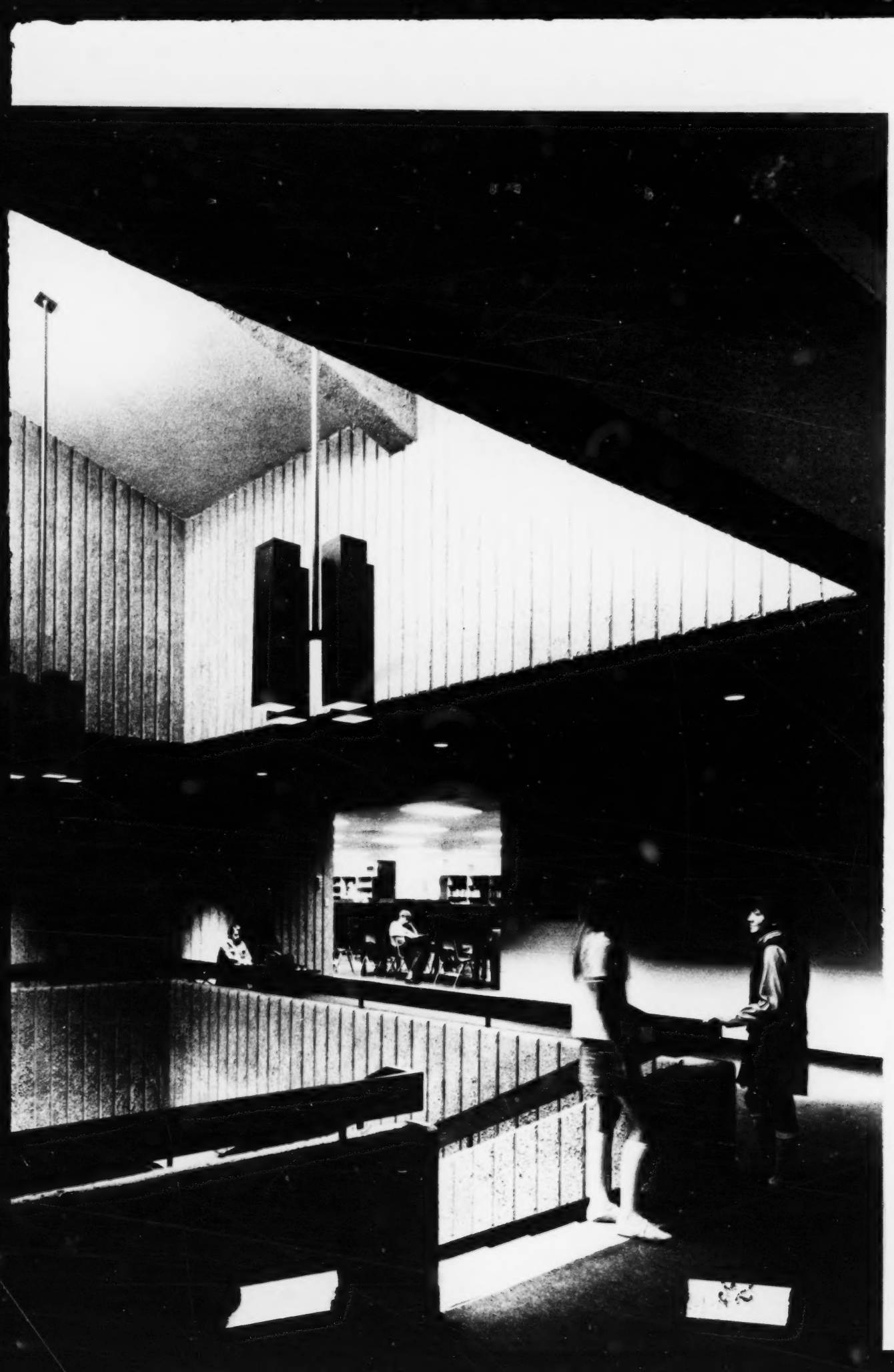


architecture

The interior is a bit more of a design challenge. Many open spaces tend to become a sort of "non-architecture"—huge expanses of flat floor and ceiling. Here much design sensitivity is required. Furniture and equipment (discussed later), color, form, planters, artwork, and other amenities can come to the rescue and can provide the design quality that open spaces alone lack. Then, too, many of the committed spaces can offer a design change of pace: the vertical space offered by stairways, strong design impact in high ceilinged or sloped floor lecture auditoriums, a delightful swimming pool, and many others.

Open space schools represent a commitment to the belief that education is dynamic—that change is inevitable. The essence of their value is that they release those who use open spaces to do their own thing. If the program is traditional for now, it can fit into the open plan school. The open space can have many dividers in it. Or the program can be way-out from the start and use the space wide open. Whether traditional or way-out, the educational program is bound to change. When it does, so will the school, painlessly and economically, for that is the heart of the open space concept.

Those who favor open space schools are committed to far more than the concept of change in educational content and techniques. They believe that children learn more effectively in open space. They believe that self-direction and self-motivation on the part of the student will prepare him better for additional learning and for a fuller and more satisfying life. They believe that learning in the open space environment will lead him to be more innovative, self-assured, intelligent, and understanding.



3 3 4

how does it work

how does it work

We have taken down the walls
and with the walls have come
those things that formed
a wall between us. We are no more
separated by our roles—
principal—teacher—student.
We meet as equals,
all as learners.

Open space provides the setting for a new kind of learning experience for teachers and children alike. The open concept in teaching is, as much as anything, a state of mind—a very special state of mind. The building itself facilitates the concept, but the most beautiful building in the world is doomed to failure as an open space school unless what happens inside of it is coordinated with the open space philosophy. Properly planned and designed buildings reflect what happens inside of them and support and encourage those activities. Open space may be compared to a fine watch—inside the case are the gears and wheels, some almost too tiny to be seen, that make the hands go forward.

Open space schools have literally torn down the walls of traditional education as it was viewed in the past. Large, open spaces provide varied use of areas. Space is more flexible and can be used in a number of ways. If desired, in fact, traditional education can be accommodated in an open space building, but infrequently used space, such as hallways and walls, is kept to a minimum.

We can speak to each other here,
the words are no longer all
unheard—for the wall is gone.
We must speak and we must hear.
You must know how I feel,
And I you, for that is what this dream
is all about.

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There are no separate, individual classrooms that have to be supplied with their own equipment and material. A little more equipment than would be used ordinarily in one traditional classroom may serve 3, 4, or more classes when they are all working in the same area. Ten books can be shared easily by 120 students, instead of 30 books having to be provided for 30 students. In this way, 20 more, different books can be bought, widening considerably the choice available to children. Diversification is the key—a far wider variety is needed, but far fewer of everything is needed in the long run.

Communication is the key mechanism to making an open school "go." There must be free exchange of ideas between principal and teacher, principal and child, teacher and teacher, teacher and child, child and child. Every person must feel free to communicate with every other person. Each must be encouraged to express his feelings, and to exchange ideas freely back and forth without fear of censure. Every member of the team must be receptive to ideas both from within and without that will improve the quality of education. When open communication stops, so does the watch.

It would be an overstatement to contend that open space schools are the answer for every teacher or for every learner. There are indeed children who get "lost" in open space—who cannot learn effectively in an open environment. Because of this, school districts with open space schools usually also have some schools with more traditional programs. When a child appears too uncomfortable in an open space school and is not profiting from the experience, adjustments may be made by the staff to provide him study space within a smaller area, or his parents may be asked to consider enrolling him in a different educational environment. So also with the teacher. He may be reassigned if he cannot work to advantage in such a setting.

the learner

I am a child,
an individual. I have come
here to learn. I will learn
differently than every other
individual here.
But you are prepared,
and you will meet my needs.

Open space is designed to achieve child-centered learning. Each child is different and each learns in his own manner. Thus the concepts of open space and individualized instruction go hand in hand. The individual child, not the curriculum, is the focal point of each learning center. Each child is encouraged to work at his own speed toward the realization of his highest potential. One weakness of more traditional educational programs has been the tendency to treat unequal learners as equals. The goal of individualized instruction—of open space schools—is to reach each child where he is, to encourage him to make his own decisions, to seek out his own learning activities, and to take him as far as he can go.

In open space schools the average student is more independent and more responsible because it is expected of him. Since he is not told continually what to do, he does not have to depend on others for direction. After general instruction, and under a teacher's supervision, he progresses on his own at his own speed from one assignment to another. He is self-directed.

The basic education that a child receives in an open-concept school is no different than that in a traditional school. "Readin', 'ritin', and 'rithmetic" are still fundamental. Children here do, however, have the added ingredient of choice. In fact, making choices and working independently is an important part of learning in the open space school. This kind of independence and freedom for the student calls for added responsibility on his part and in turn develops his understanding and thinking processes and his skills in making sound decisions.

Students move a great deal from one area to another. Instead of a student's having one desk to which he is assigned all day, his activities may require many changes throughout the day. He probably has a tote tray in which to keep his supplies and belongings, and he carries the tote tray with him from one area to another. Tables or other kinds of furniture in each area are specially equipped for storing the trays.

A typical day in an open space elementary school may begin with Johnny and Suzy joining their group with their assigned teacher in one area. The opening amenities take only a few minutes—just enough time for the usual good mornings and special discussion, perhaps to take attendance and to determine who will be eating the hot lunch today.

As the program gets under way, Johnny leaves this area and moves to another area. He will spend about 20 minutes in the learning center with six or s
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You have given me responsibility—
it is not required, but expected.
And I have taken it, for even
a child can be independent,
can thrive and grow with trust;
that is democracy.
When you respect me,
I respect you.
—Your encouragement
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As the program gets under way, Johnny leaves this area and moves to another area. He will spend about 20 minutes in the learning center with six or seven other children from their group. He is interested in sea life and this morning he is viewing a special film on sea anemones that the library aide helps him locate. Others in the group are working on reading skills in various ways such as playing skill games, telling stories, and using teaching machines. The learning center provides for many other activities and includes a variety of resources for math, history, literature, science, and art. Parent volunteer aides or perhaps a junior or senior high school student is presenting a special reading program to another group. During participation in the program, aides are watching each child's progress, and before they return to their reading teacher, an aide will note activities and accomplishments for the day.

This group then moves to their reading teacher. They are studying phonics, and will work at a listening post for a review of blends. The children put on earphones, and each child has a turn at operating a cassette. When the tape is finished and worksheets collected, the group meets with the reading teacher, who evaluates their progress in blends and continues from there with her course of instruction. After the lesson, the teacher makes suggestions to each child on his continuing program. Reading

You have given me responsibility—
it is not required, but expected.
And I have taken it, for even
a child can be independent,
  can thrive and grow with trust;
that is democracy.
When you respect me,
I respect you.
  —Your encouragement
gives me the desire to go on,
and not to stop.

levels are reevaluated often, and the child may be reassigned to different teachers, depending on his progress.

Suzy is working on her writing. She is intrigued with moving into cursive writing, though some of her classmates are still using the manuscript style. Her creative interests lie in the play and drama, and since most children enjoy role playing and an opportunity to try their hand at being someone else, she wants to write a skit about Sojourner Truth for some of her friends to act in.

Other children are working on a special post office project as a part of learning mathematical skills. A local postal clerk has familiarized them with his responsibilities at work and they have set up a little mock post office in their cluster where they buy and sell play stamps of different denominations, weigh packages, and compute rates by zone charges. The mathematics program at this particular school is divided into skill levels. The children are placed at various levels only after careful evaluation by the teacher. The math program is based on behavioral objectives written by each team of teachers. The children know exactly what performance is expected, and what they have to accomplish to proceed to the next level. Games, simulated real-life experiences, and trips to nearby business establishments are all a part of the program.

Children are assigned to a unit teacher for science, social studies, or art. This is the unifying thread of the curriculum. Much team planning is done for this part of the day. For example, this week, John and Suzy's group are learning about how children live in Japan. Their teacher's brother recently returned from a trip there and brought back an obi to his sister. Now the children are all interested in learning more about Japan and how children live and dress there, not only now, but in the "olden days." They are searching out facts about the country to share with others in the school. This is a part of a schoolwide program this term on children of the world. Each unit teacher has worked on activities about children of a different country, and before this program is over, all of the students in the school will have had an opportunity to learn and understand more about how children live in many different countries.

Although at first students may make mistakes in scheduling their time or making other decisions, they soon learn how to plan to move ahead or they seek advice on next steps or where to turn for information they cannot seem to locate. Teachers expect and encourage students to ask for help. That is a prime responsibility for the teacher in an open space school.

There is a feeling of freedom in open space classrooms—freedom of movement without regimentation and having to pass through doors and along crowded corridors on a signal. Children are given opportunities to move freely and quietly from one learning area to another and from one activity to another. Admonitions like "be quiet," "sit down," or "listen to me," often associated with traditional classrooms and traditional teaching, are just not part of the scene.

Noise is perhaps one of the conditions that most distinguishes an open space learning area from a conventional classroom. This noise is the hum of activity—of things being done. There is a difference between this kind of noise and that attendant on chaos or lack of direction and purpose. The sounds associated with open space are, in reality, the sounds of learning. A quiet classroom does not necessarily mean a learning classroom. Nor does freedom carry with it the right to disturb others' learning. Rather, this close association and free interchange with other children and more than one adult instills self-reliance, consideration for others, and broadened viewpoints.

In an open space situation, the student comes in contact with more adults than in a traditional classroom. Grouping is temporary and constantly changing. He learns to relate to, communicate with, and trust and understand more

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I am happy here.
This, above all, is
most important.
I enjoy learning.
I enjoy coming here,
for you treat me as
a very important individual.
I am happy here.
You emphasize my successes,
not my failures.
No matter where I am
I can succeed,
for I compete only with myself.
I am happy here.

Noise is perhaps one of the conditions that most distinguishes an open space learning area from a conventional classroom. This noise is the hum of activity—of things being done. There is a difference between this kind of noise and that attendant on chaos or lack of direction and purpose. The sounds associated with open space are, in reality, the sounds of learning. A quiet classroom does not necessarily mean a learning classroom. Nor does freedom carry with it the right to disturb others' learning. Rather, this close association and free interchange with other children and more than one adult instills self-reliance, consideration for others, and broadened viewpoints.

In an open space situation, the student comes in contact with more adults than in a traditional classroom. Grouping is temporary and constantly changing. He learns to relate to, communicate with, and trust and understand more

people. He is better prepared for encounters with the world outside the school. He is afforded more opportunity for healthy relationships. If personality clashes do develop, he can gravitate to another adult with whom he feels more compatible.

The atmosphere in open space elementary schools is relaxed, but there is a lot of learning going on. Most students are working hard because they enjoy what they are doing. One reason, and a most important one, that they enjoy what they're doing is that they can make choices. They choose what interests them, and they are given more and more choices as they get older. They no longer are obligated arbitrarily to study something not suited to their needs and interests simply because that is the way "everybody does it." There are choices and alternative learning experiences.

One very important feature of the open space, individualized learning concept is that it usually results in the abandonment of the traditional letter grade system. Individualized instruction connotes continuous growth, and continuous growth cannot be evaluated in the traditional way. Children are not asked to compete against one another. Their growth is not thwarted or stunted by such artificial and frustrating barriers to learning. Their progress, therefore, is evaluated in terms of individual growth and development, measured in terms of self-capability.

Generally there are fewer discipline problems in open space schools because children like what they're doing. They accept and enjoy self-directed responsibility. They are pleased to be treated as equals. They delight in independent discovery. And they take pleasure in doing their own thing. Indeed, the desire to share and the cooperative spirit engendered when children tell one another about some newly grasped idea or bit of knowledge adds joy to the process. It is a festival of learning. Children are happy here.

the teacher

I am a teacher—
A special person.
I am no longer isolated
behind my own door.
I am visible—
can be nothing but the best.

Open space schools need a special kind of teacher—one who is willing to meet the challenge of the wall-less environment. Teaching is no longer a solo performance, one of instructing 30 or 35 children. The teacher's role, rather, is one of activator—one who guides or suggests paths to the learner. Though different, the role surely is no less, and perhaps very much more, important. She may not need to carry as many solid facts around in her head to spiel out when necessary, but she surely must work harder from day to day in keeping each of the children under her care stimulated, guided, and satisfied. She must love children and know and understand them—know how to group or pair them so they help one another, know how to understand problems that interfere with their learning and correct them—and do all this on an individual basis, not for a collective group. She must have the ability to develop curiosity in the learner, a curiosity that will lead him to deeper understandings, clearer meanings, and a desire to learn.

Evaluation of the learner then becomes constant, and close relationship between teacher and learner is paramount. No one expects the young learner to work in a vacuum in his self-directed program and no one expects him to

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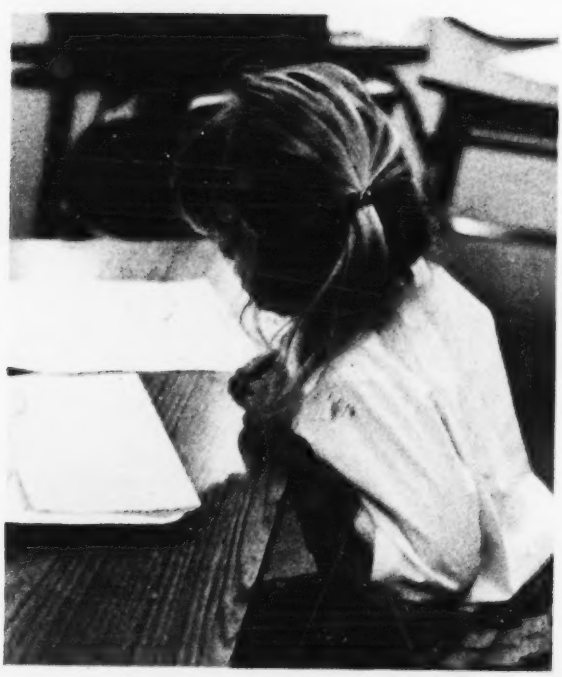
Evaluation of the learner then becomes constant, and close relationship between teacher and learner is paramount. No one expects the young learner to work in a vacuum in his self-directed program and no one expects him to come to school equipped with enough sound judgment to make all the choices in his learning. So the teacher–learner conference, where he is helped to understand his strengths, his weaknesses, where he's been, where he's going, and how he might try to get there is vital to his well-being. The teacher must be frank and honest in discussing the student's achievements and shortcomings and insist that he do too. A big part of the student's learning process is to try to understand himself and to make sound decisions about himself. Unlike a more traditional setting where he is evaluated in terms of competition with 30 or 40 others, the teacher must help him evaluate himself in terms of his own capabilities. This is a most demanding role.

The teacher does not work alone. Every method and technique which a teacher employs with a small or large group in an open classroom is visible to every other member of the team, and must be harmonious with the rest of the team. Because she is under the constant observation of others, a teacher in an open school must be flexible. She must be receptive to suggestions and criticisms of her peers. If a teacher is rigid and unable to bend to the rhythm of the group, or if she cannot accept observation by others, she will not succeed in an open space school.

This openness, this constant visibility, in the hands of a master teacher can produce a higher level of teaching performance. Teachers, both new and experienced, can increase their effectiveness more quickly in open space than in traditional, self-contained classrooms. They are constantly learning new or more effective techniques, acquiring ideas from watching their teammates, and demonstrating their own successful techniques to others sharing the area. The dissatisfied, insecure, or incompetent teacher is quickly weeded out. Every member of the team must carry his share of the load, or all suffer.



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air each strength and weakness—
communicate.
We must strive together
continually to improve
what we teach.
Cooperate.
We must be close, respect one another,
accept criticism as constructive—
so the children will benefit.

We have taken learning,
tried to personalize it
for each child.
We will try to meet your needs
individually,
and the sky's the limit.

In a well-planned team, teachers are encouraged to specialize and to emphasize their strong points in their particular subject areas; other team members cover other areas. A teacher who is especially adept at science but weak in social studies, for example, teaches several different science groups, while another member of the team takes responsibility for social studies.

Teachers in open space schools are upward bound. They are working continually to improve themselves and each other, and the quality of education they provide for each child in their care. It takes a special person—one who is dedicated, who is willing to devote a great deal of time and energy, and who cares very deeply about children.

In the successful open space school, the staff is carefully selected and members of the team should participate in the selection. People

One thing I like here—
for myself and the child—
I am free to build strengths.
The others cover my weaknesses
with their strengths.
I am able to give more time
teaching those areas
in which my talent lies.

We must work together,
air each strength and weakness—
communicate.
We must strive together
continually to improve
what we teach.
Cooperate.
We must be close, respect one another,
accept criticism as constructive—
so the children will benefit.

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In the successful open space school, the staff is carefully selected and members of the team should participate in the selection. People who do not fit are excluded. The principal allows them all freedom to work and to use their talents to the best of their abilities in a cooperative effort.

In order for teachers to spend as much time as possible teaching and working with individual students, differentiated staffing is invaluable in open space schools. Teams are often given the choice of either one teacher or a number of instructional aides, and they sometimes choose to have more aides. This brings more adults into the class, and lessens the adult–student ratio. With aides in the class, teachers do not waste time doing things they should not have to do. Aides duplicate materials, file, correct papers, and run errands—all time-consuming projects which take teachers away from teaching. The use of paid noncertificated people makes teachers more effective as teachers.

the principal

I am the principal here.
It takes a dedicated person
to handle this job.
I am another team member,
I try to keep things smooth,
iron out the bugs—
and there are many,
but always less than before.
I like what I see here.

No one person contributes more to the success of an open space school than the principal. Hopefully, he and key members of his staff have been in on the planning of the school and are intimately acquainted with its heart and soul. His devotion and immersion in the school's program serves as the catalyst for its inner workings. In an open space school more than any other he is the educational leader. He is the guiding coordinator and the generating sparkplug.

It is much easier for the principal in an open space school to get to really know the children and teachers in his school, because in this school, entering one area exposes the interworkings of a group involving as many as 4 teachers and 120 children. Teachers feel much less threatened by intrusions of the principal or anyone else entering the area. As a matter of fact, a visitor to an open space school may see little reaction to his entering. Everyone is so busy with his own work, and there is such a wide variety of activities taking place, that the visitor may well be completely unnoticed—a much different picture than a visit to a more traditional classroom.

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the principal

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The principal assists new teachers in their orientation to the school and teammates. He as much as anyone controls the overall climate and helps personnel, students, parents, and community to understand and support the program. His assurance, skill, and belief in the philosophy and goals of the open space school can give to the new teacher the encouragement he needs to join a team of more experienced people; to the young child not used to making decisions on his own the assurance he needs to take a chance without fear of reprisal; and to the uneasy parent a clearer understanding of just how much learning really is taking place in this relaxed atmosphere.

The very organization of an open space school creates a cooperative spirit between and among all staff members in planning, presenting, and evaluating instruction. It is the principal who must continually evaluate what is happening and guide its inner workings. When he sees defects or the need for change, he must call it to the attention of the staff and work with them to effect change—change toward achieving the goals of the open space school and improving it day by day.

4

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plan

who plans it

who plans it

The open space school appears to hold bright promise for improving educational opportunities. How fully that promise may be realized depends on many things. To a significant extent it depends on well-conceived and thorough preparation, on skill in tapping the strengths to be found through involvement of many people, and on ability to pace planning schedules properly. No longer can planning be done solely by a small in-house cadre. If acceptance is to be gained from parents, teachers, students, and a multiplicity of other concerned people, access to understanding must be provided and this means that many avenues must be provided. The people affected come from many places. As Don Leu recently commented in a filmed interview, "In the old days (which is today) . . . we started with the building. Now I think we are using what I call the outside-in approach." [1]

What does planning outside-in really mean? It means that those who are to learn and to work in open spaces must participate in the planning of the arrangements. It means that those who are to have their children learning there must understand what it is all about. It means that those who are to live beside the "new" school, and those who are to help pay for it, must feel it belongs to them because they were involved with its evolution, and thus believe in it. It means that the architects and the building planners must attune themselves to hear parents, students, and teachers, as they voice their concerns, their aspirations, and their expectations for the ways in which they expect the building to serve. It means involvement. Involvement means power sharing, delegating responsibilities, and securing commitments to agreed-on outcomes.

[1] AASA, AIA, CEFP, EFL, USOE. *What's Happening?* Filmed interviews used in 1971 Educational Facilities Workshops. Washington, D.C.: NEA Sound Studios, 1971.

human input

Planning today takes people—lots of people. Governing boards, both administrative and fiscal, need help to understand what is meant by openness, by open space and open flow. What evidence is there that an open space school is a better place to learn is not a simple question to which a brief pre-set answer can be given. Finding satisfactory responses may require carefully planned exposures to learning theories—to group dynamics—to basic philosophical considerations about what public education is seeking to do. It may mean visits to observe good open space schools in operation. Mayors, councilmen, and members of county boards and boards of education are not about to be sold on just another new "fad" especially in days of tight money and bond issue defeats. The planning obligation for these vital groups must be met early and effectively. One school system, in reporting on its efforts to prepare governing boards, set aside money for travel and an investigation of the "state of the art." The report reads that "while on-site inspection of community schools, innovative structures and unusual materials was helpful, the greatest value achieved was the traveling and living together of influential people who were involved with the project . . . (this) resulted in better understandings and working relationships during the planning stages. . . ." [2]

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[2] Arlington, Virginia, Public Schools. Unpublished paper presented to the Council of Educational Facility Planners, April 20, 1971.

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It is reasonably obvious that while many teachers have learned to work together, to team, to pool, and to share ideas and efforts, there are still some who, psychologically if not physically, shut their doors and teach as they have been teaching for years. To assume that any teacher good enough to keep in a system is ready and able to work in an open space school is to make a short-sighted and serious error. Reports are all too frequent of staffs being assigned over the summer to an open space school, without screening, without understanding, without preparation, and the inevitable results are damnation of the open school, frustration and bitterness, and a staff and possibly a board and administration firmly resolved never to try it again. Teaching and administrative staffs do not necessarily develop understanding easily. Opportunities must be afforded for observation, for study, for consultation with those experienced with the concept and the operation. Most of all, some real or simulated experiences must be extended to as wide a spectrum of the teaching staff as is possible.

[2] Arlington, Virginia, Public Schools. Unpublished paper presented to the Council of Educational Facility Planners, April 20, 1971.

investment of time

Some school systems find summer schools, with their greater opportunities for flexibility in programs and staffing, to be ideal times to experiment and to try out in abbreviated or micro form arrangements that approach in philosophy and practice those to be found in open space schools. Others, foreseeing building needs and bond proposals, begin far in advance to build slowly with staff development efforts, encouraging individual study, using wisely selected printed and visual materials, making planned visits, and bringing in consultants, teachers, and administrators who have had firsthand experiences in open space schools. No one pattern or combination of efforts is necessarily best or right, but preparation must be made and appropriate activities carried out far in advance of an opening if a school system is to gain from a move to an open space program.

Planning takes time—lots of time, too—but apportioned differently perhaps from what people have been accustomed to in the past and with different lead periods. Not only must a reasonably broad base of enlightenment about open space be developed with teaching and administrative staffs, but concurrently, a very large group of parents and patrons must be involved. Numerous opportunities exist within most school systems to reach parents and others through PTA's and similar groups, and through the institution's information system to stimulate questioning and encourage the seeking of additional understanding. Readiness for appropriate change is important—indeed vital—and must be cultivated. But bandwagon pressure is not necessarily good, and the challenge to superintendents is to make certain that appropriate leadership is provided. If not, school systems may face the danger of runaway, or a close-out at any moment. Careful thought must be given to the timing of the entire process. When is the appropriate moment to move from a generalized understanding phase to more specific considerations? How are these movements synchronized with bond issues? How does one avoid stretching out the process at the wrong time so that delays in planning seriously and adversely affect costs per unit? How are unnecessary gaps between budgets and expenditures avoided? Some of the answers to these problems may be found in systems techniques and some through the "art" of community understanding and sensitivity of the superintendent. In any event for questions like these, answers must be found.

resources

Planning takes money. Money must be budgeted for inservice programs for teachers and administrators for visits to open space schools, and for communication. Developing understandings with the many different groups to be involved requires both time and money. Budget allocations must be made for using some of the techniques being found helpful in the planning process.

At an early point within the planning cycle specific provision must be made for wide participation in the evolution of educational specifications. Communication is really the key for development of the program. A charrette[3] is one method used by school systems to get that participation. It is a free-flowing, open-ended conclave structured to facilitate communication and expedite decision making. An educational charrette is a technique for studying and resolving educational facility development problems within the context of total community planning needs. In a charrette interchange is free and open: professionals and concerned parents listen to one another; students and teachers tell what they like, want, or do not want; architects and city planners talk with PTA leaders; taxpayers whose prime concern is cost-cutting have their say; and interested community members express their concerns. From these communications a clearer picture of true community values can emerge and the real advantages of the open space school can be candidly and lucidly considered.

Another possibility is Simu-school,[4] a simulation game, educational experience, and tool for educational planning. One version of this gaming approach requires a few days and is based on the participants' own school system. It relies on exposure to real issues. A skilled leader may offer an overview of the major steps, with each participant then presenting brief inputs, using slides, scripts, and other materials. Everyone then plays a role—teacher, administrator, school board member, parent, student, member of the business community, city or county official. Throughout the process use is made of a computer to provide solutions based on "real" data.

[3] See descriptions of charrettes in "Charrette: A Real Way to Learn" by Marvin E. Rosenman, *AIA Journal*, July 1971, and "Urban Design-athon" by William W. Chase, *American Education*, November 1968.

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involvement

While it is important that adequate understandings be built with many people and many groups, it is essential that specialists be assigned to a designated project at the earliest possible moment. Two of these specialists are the principal and the architect. They must be completely immersed in a project if maximum results are to be achieved. Their interaction with one another, with the building planning department, the building committee, the staff, the community, the superintendent and his cabinet, and with the whole host of people who will be involved can scarcely begin too soon. If the architect is brought in after important decisions have been made, his full professional expertise can never be utilized and a school system has denied itself full value. The principal should be released from other assignments at the earliest possible moment so that he can assist with the important responsibilities of staff screening, selection, and training; program coordination; community contacts; and equipment selection.

The selection and training of staff are key determinants to the success or failure of an open space school. Teachers and administrators who are psychologically ready for the kinds of exposures and experiences they will have in open space schools must be the ones selected to work there. Adequate time must be provided for the school staff to plan and work as a unit prior to the opening of the building. The natural enthusiasm with which a staff anticipates the opening of a new school must be buttressed with know-how and readiness, and tempered with insights into unforeseen difficulties which must be faced. In spite of its virtues, strengths, and potentials, no open space school is perfect. Adequate and realistic preparation is the best defense against frustration and disillusionment.

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what's in it

what's in it

As far as furniture and equipment are concerned, the open spaces in open space schools are a special breed of cat. Certainly, pupils still sit on chairs; write on desks; put books on shelves, figures on chalkboards, and displays on tackboards. Teachers still use audiovisual equipment, point with pointers, and erase with erasers. So, what's new? Plenty!

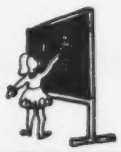
For one thing, in open space schools, furniture and equipment do much of the work walls and partitions do in buildings with self-contained classrooms. Essentially, a major function of furniture and equipment is to divide the open spaces. And if furniture replaces walls, it must also replace chalkboards, tackboards, projection screens, storage shelves, and all the other things that used to be mounted on the walls.

Furniture in open space schools sometimes replaces whole rooms. Storage rooms and closets for the most part are gone—replaced by cabinets. Long, skinny corridors with lockers like those in traditional schools are not necessary in open spaces. Coats, hats, and overshoes are frequently stored in special cabinets in open space schools.

Most different of all perhaps, nearly *everything moves* in open space schools. Furniture isn't screwed to the walls or to the floor, it's on wheels or skids. This newfound mobility makes the open space school what it is—a flexible tool for the people who use it, a place where learning processes may range from pretty traditional to way-out and then back again. The learning environment in the open space school may be shaped and reshaped almost instantly by merely pushing, pulling, rolling, or lifting the furniture and equipment that fills up the open space and converts it to a dynamic place for learning.

space division

storage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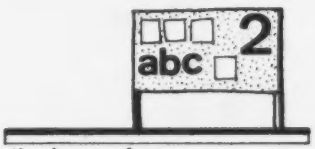

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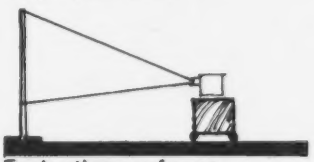
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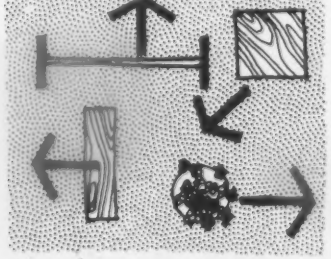

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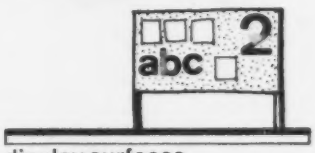

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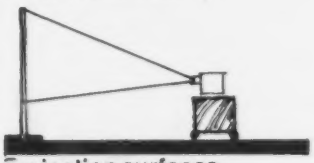

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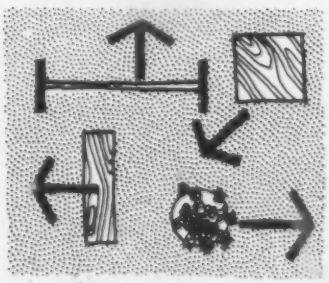

dividing the open space

it is no longer necessary
to *fit* learning to its
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The following concept is perhaps a bit oversimplified. Still, it describes a basic way of life for the open space school. If one starts with a large open building area and adds a broad vocabulary of movable furniture and equipment and if one has the muscle power necessary to move it, he holds the unique and vital ability to shape the educational environment to suit the demands of the educational program and process it exists to serve. It is no longer necessary to force or adjust learning to fit its container.

Since the open space building itself is described elsewhere in this book and because the ingredient of muscle power comes naturally with pupils and teachers, it remains for this discussion to relate itself primarily to the vocabulary of dividers that help to shape the open space.

partitions

Some open spaces are wide open. No partitions of any kind. Ever. Others are divided through the use of full-height folding, sliding, or demountable partitions specially designed for use in open space schools. At the far extreme of their use, these partitions are capable of virtually converting open space into visually and acoustically self-contained classrooms. That way, the uncommitted educator can have his cake and eat it too. He need not—and perhaps, should not—be fully committed to education in the open or any other single concept.

In the recent past, most of the folding and sliding partitions have been suspended from track systems in the ceiling and could only go where the tracks go. They could be opened and closed but not moved from one place to the other. More recently, sliding and folding partitions have been developed that carry their own

weight on end columns and overhead beams. These can open, close, and move elsewhere. Thus, they are far more flexible than their fixed-track cousins.

The demountable breed of partitions offers wide variety, too. It ranges from vinyl clad gypsum board panels mounted on metal stud systems, which require considerable time and money to relocate, all the way to movable wall panels which lock into place with the simple turn of a handle and which may be relocated in a matter of only a few minutes or hours depending on how much partition is involved. As a general rule, the easier the demountable partition is to move, the more it costs to buy. Initial cost is often recovered by the savings made when the partitions are moved.

visual dividers

More often, the open spaces are divided by rolling equipment—storage cabinets, chalkboards, tackboards, and the like. They divide the space visually but offer little acoustical separation. The acoustics are adequately handled by absorptive floor coverings and ceiling materials plus the allowance of ample space between pupil groupings. Rolling units do far more than simply divide space visually. They store clothing, tote trays, musical instruments, books, art supplies, and almost everything else that needs putting away in the open space; they serve as projection screens, writing surfaces, display surfaces, and flat topped places upon which to put things. Rolling units are truly the work horses of many open space schools.

tables and chairs

Not too many years ago, schoolroom furniture consisted mainly of a chair for each pupil. One way or another, a desk was physically attached to each chair. A few years before that, the whole contraption was screwed to the floor. Thirty to forty such units were arranged in neat rows and aimed toward the teacher in the front of the room. She had her own desk and chair plus, maybe, a demonstration table and a globe of the world. The mobility of pupils and teachers in open space schools demands different kinds of furniture. Chairs are separate, lightweight, and capable of being stacked in compact piles of a dozen or so. Tables are much the same. The ability to stack furniture makes it possible to create open areas of floor space for group activities or something else that often happens in open space schools—sitting on the soft, inviting, carpeted floor which is a pleasant experience for almost everybody. Trapezoidal tables are frequently used rather than their square or rectangular relatives because they open more avenues of creative and functional arrangement.

Unlike space dividers, tables and chairs tend to vary broadly between open spaces in elementary schools and those at secondary levels. Obviously, the size is different to match the dimensions of the user. But the differences go deeper than that.

In elementary schools, furniture needs are comparatively simple. Principal requirements are storage units, vertical and horizontal working surfaces, tables, and chairs. The "work center" for the elementary pupil is often a tote tray—a little plastic storage box in which he keeps his basic supplies. Where the pupil goes in the open space, he takes his tote tray with

tables and chairs

Not too many years ago, schoolroom furniture consisted mainly of a chair for each pupil. One way or another, a desk was physically attached to each chair. A few years before that, the whole contraption was screwed to the floor. Thirty to forty such units were arranged in neat rows and aimed toward the teacher in the front of the room. She had her own desk and chair plus, maybe, a demonstration table and a globe of the world. The mobility of pupils and teachers in open space schools demands different kinds of furniture. Chairs are separate, lightweight, and capable of being stacked in compact piles of a dozen or so. Tables are much the same. The ability to stack furniture makes it possible to create open areas of floor space for group activities or something else that often happens in open space schools—sitting on the soft, inviting, carpeted floor which is a pleasant experience for almost everybody. Trapezoidal tables are frequently used rather than their square or rectangular relatives because they open more avenues of creative and functional arrangement.

Unlike space dividers, tables and chairs tend to vary broadly between open spaces in elementary schools and those at secondary levels. Obviously, the size is different to match the dimensions of the user. But the differences go deeper than that.

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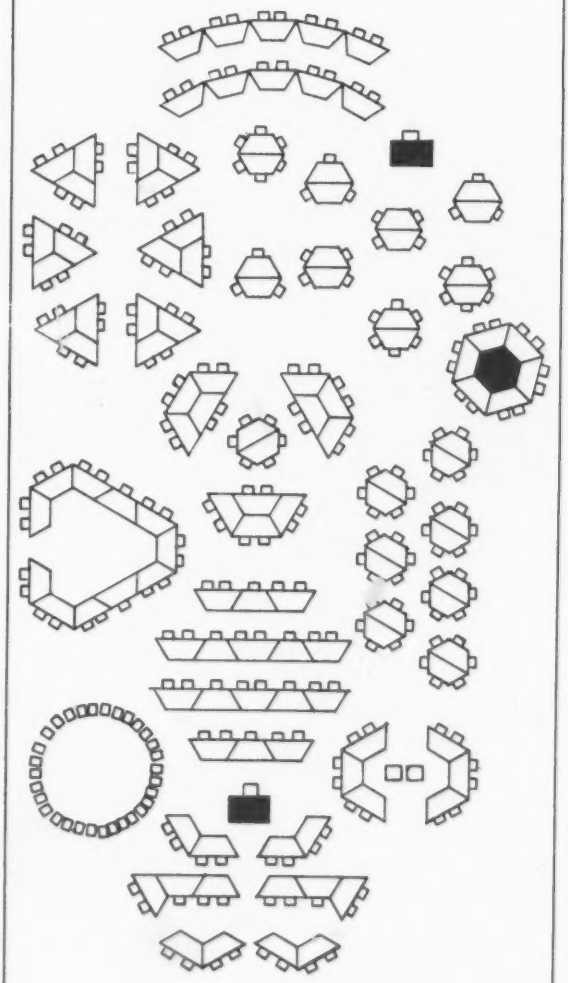


him. He can put it on a shelf under his chair or on a table and he is ready for action. Of course, as he moves along in his elementary education career, his needs become somewhat more sophisticated and he begins to seek science centers, study carrels, and other more complex places.

When secondary school rolls around, things change. Chairs and tables are still used, but there are also such things as more highly sophisticated study carrels which sometimes become the pupil's new "work center."

Carrels are desks with vertical screens on their back and sides. Often, they have utility connections and include television screens, tape recorders, and dial access equipment which connects the carrel to a computer memory bank, and much more.

Science facilities are often located in open space. Here again, furniture may be movable and attached to utility systems with quick-connect devices which may be easily removed and replaced.

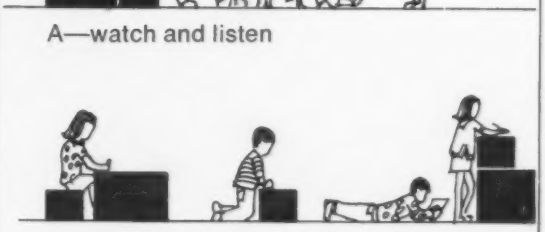
Vocational/technical space is even open sometimes. Again, furniture and equipment must be appropriate to the new circumstances created by openness.

In electronic learning centers such as language labs, equipment is often wireless, receiving its signal from an antenna loop hidden above the ceiling. Student units are fully portable.

Indeed, today's technology is beginning to provide many new and exciting varieties of basic furniture and equipment for open space schools.

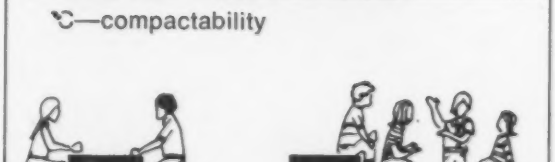
six activity functions teachers want in elementary school furniture

A—watch and listen



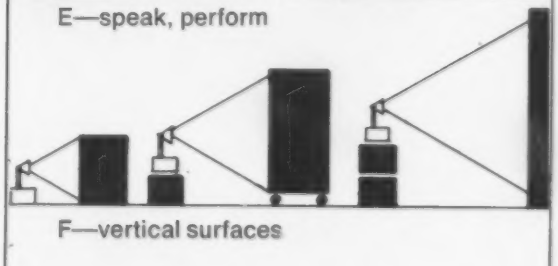
B—read, write, and mark

C—compactability



D—group discussion

E—speak, perform



F—vertical surfaces

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six activity functions teachers want in elementary school furniture

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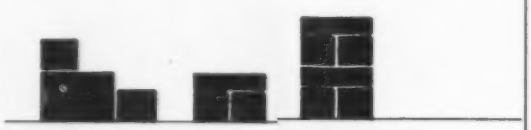
B—read, write, and mark



C—compactability

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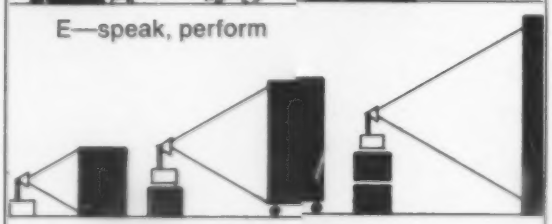
E—speak, perform



F—vertical surfaces

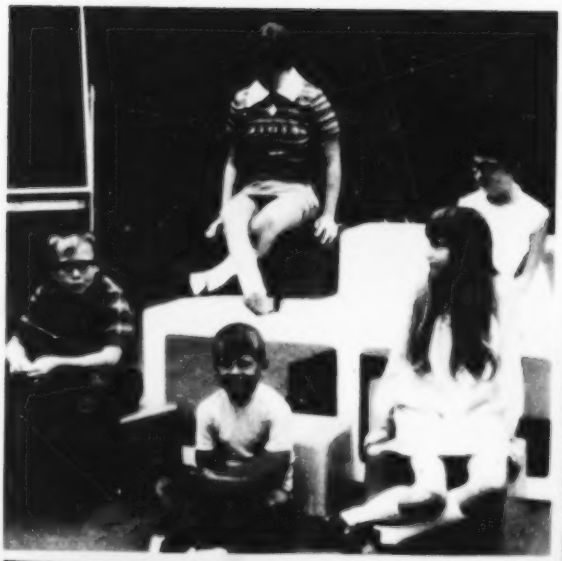
just things

Particularly in open spaces at the elementary level, the basic vocabulary of furniture and equipment is being supplemented by imaginative new things, many of which are of the do-it-yourself variety.

In one school district, a teacher/architect team developed a listing of primary activities undertaken in elementary school open spaces: lecture–listen activities; reading, writing, and making things; group discussions; speaking–performing situations; watching projection materials; or working on vertical surfaces. While basic furniture served many of these activities, it missed badly on others. From this research effort, a pair of portable plastic cubes emerged. The basic cube is 12″ x 15″ x 18″. The table cube is 36″ x 72″ x 24″. The table surface has two tops, one of which is smooth, the other soft and durable like carpet.

With the carpet side up, the table can easily be used by children to stand on, thus making an instant performance surface. In this position, the smooth side is down and the cube slides easily across the carpeted floor. Turned over, the carpet side of the cube will stick to the floor and the top surface is smooth for writing. These little cubes may be grouped to become stages, set on end to become projection screens, stacked in all kinds of ways to become nearly anything the children can dream up, or to simply be gotten out of the way. They are strong, lightweight, colorful, different, and do much to stir the imagination.

Do-it-yourself things are also "fun" type supplements to the basic furniture in elementary level open spaces. Imagine what a huge tractor inner tube can become in the hands of children. A rolling platform, built in the high school shop, becomes a stage, a table, a boat at sea, something to sit on or around, and lots more. Shop built wood boxes are "fun" type chairs and work surfaces. An assemblage of cardboard tubes painted bright colors can become a geodesic dome or a play sculpture. Vibrant pennants or colorful mobiles or solar systems made up of plastic globes can hang from the ceiling. After all, why not use the ceiling?



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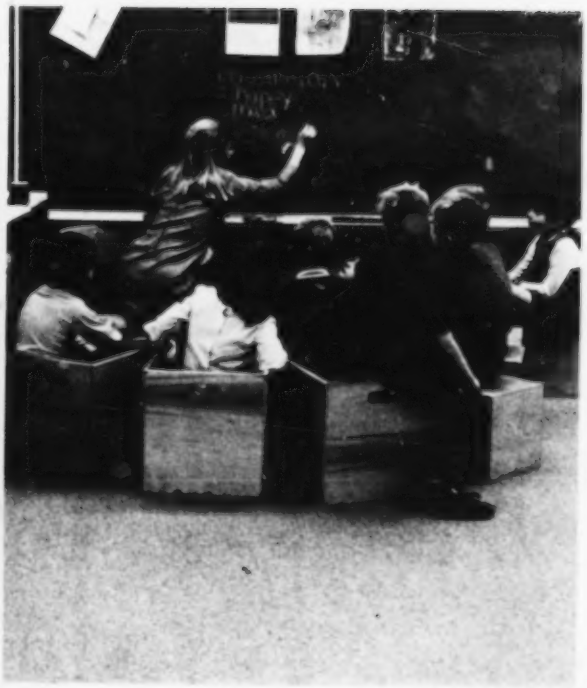
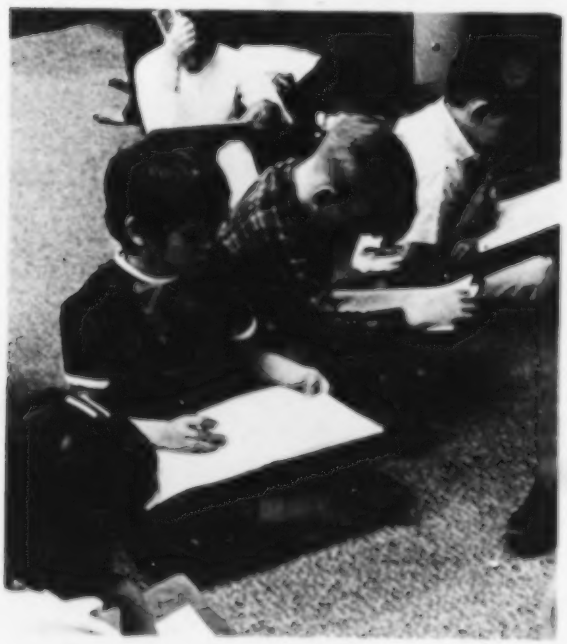


Although carpet is probably more in the category of floor covering—the same as such materials as vinyl asbestos tile, etc.—it still deserves discussion as furniture. Certainly, carpet is a major factor in the ability to open up spaces in school buildings. Its acoustical properties alone make it an essential ingredient in open space. Without its sound absorbing characteristics, open space would be a bedlam.

But carpet is more than an acoustical asset to open space. It is an extremely appealing place for elementary pupils to sit. As such, it provides the teacher a way to change the pace and to generate new adventures in learning for the pupils. In this sense, carpet is furniture.

Somehow, carpet seems to change the spirit in educational space. Perhaps it is because carpet is soft and quiet that children seem to appreciate it, treat it a bit better, and behave differently. Or perhaps it is because the carpet is good looking—visually satisfying. For one reason or another, teachers and pupils alike respond positively to the carpeted environment.



visual quality

Frequently, the open space in schools qualifies nearly perfectly as "non-architecture." From a functional point of view, great expanses of flat floors and equally flat ceilings have much to offer. They are inexpensive. If a movable, modular partition system is used, the constant dimension between floor and ceiling makes it possible to attach partitions almost anywhere. Functionally it's flexible, but visually it's dull-dull-dull.

Well-designed furniture and equipment can come to the rescue. Good use of form, color, and graphic design can become the visual vi-

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How can you show slides or movies in open spaces? Easy! Use the newly developed daylight screens when the projected image is bright with the lights on. Or use portable rear projection units. Or use the standard overhead projector. Sound tracks can mean trouble unless the sound system is zoned and there is an adequate number of ceiling speakers to permit the sound volume to be kept low.

One thing to watch for in the use of projection equipment in open spaces—flat floors and low, level ceilings do not make for good sight lines when large groups are involved. At secondary levels, where large group instruction is frequently supplemented by projection devices, a special lecture room is often desired. In elementary schools, lecture pits frequently do the job. In either case, these are not highly flexible spaces, although they frequently double as performance centers for dramatics and musical events or guest speakers.

visual quality

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Well-designed furniture and equipment can come to the rescue. Good use of form, color, and graphic design can become the visual vitality the open space itself so seriously lacks. If open spaces are windowless, or nearly so, furniture can bring the outside in with carefully placed planters. Given a reasonable portion of design sensitivity and much tender loving care, the open space school doesn't have to be "non-architecture." It can be a place that is vital and exciting. It can teach young people about beauty in their environment. It can—more than any other kind of school—kindle the fire of innovation. Why doesn't it? Frequently, available manufactured furniture is not well-designed visually—it is all function and no looks. Often

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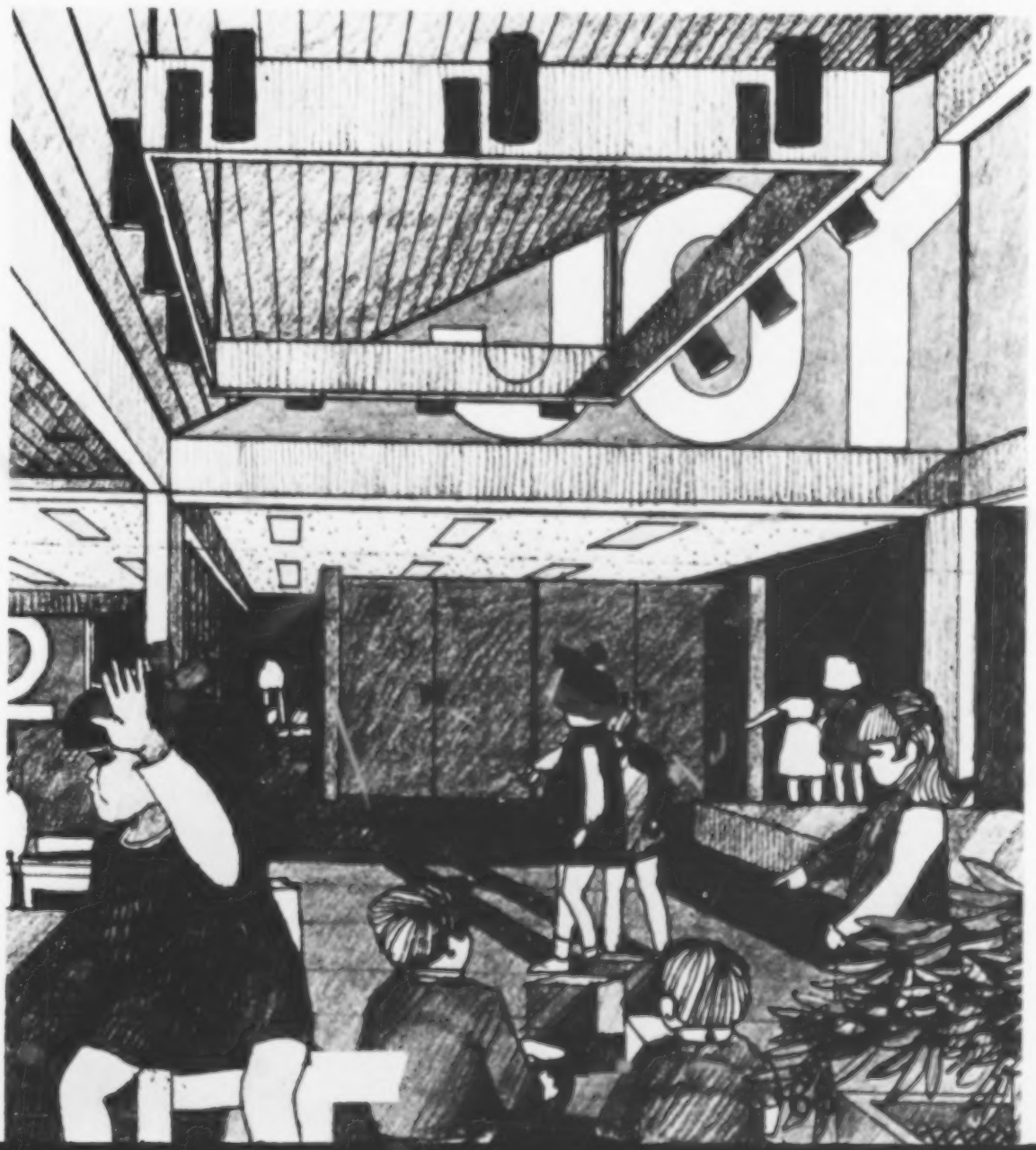

the furniture and equipment budget has been drained by the cost of things that happen before the furniture is ordered, like the bid opening for the building, site acquisition, and so on down the line. Then too, the architect who is trained in visual design is often replaced by others who have no real design ability when it comes to purchasing furniture and equipment. These problems are very real. If a truly adequate learning environment is to happen in open space schools, they must be dealt with and solved.

a process

Since the functional and visual success of open space schools is so tied up in the close coordination of building and contents and since furniture and architecture are so interrelated, a planning process must be established at the very beginning. Building and furniture must be considered simultaneously when educational specifications and designs are prepared. The old process of having the architect design the building without really knowing how it is to be used simply won't work for open space schools. Designs must include furniture and equipment.

When the time rolls around to actually select, specify, and purchase specific items of furniture, the design team of educator and architect should be made a part of the action again to assure that the functional and visual concepts for the building are properly carried through to its furniture and equipment.

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toward maturity

Furniture and equipment in open space schools have only been touched on here. Much appropriate stock is now available on the market. More is coming as open space schools move toward maturity. The new furniture accommodates individualized learning, team teaching, variable grouping, nongraded techniques, modular scheduling. Beyond that, it permits the children to act on their own environment—to shape it for themselves the way adults can. In the future, perhaps the furniture and equipment will be designed to make a strong contribution to the visual quality of the open spaces.

Open spaces are a significant new step in educational facilities. But if they are to serve education well, they must be understood, and their design, furnishing, and use must be undertaken with care and compassion.

Trip to England
Classroom Helpers

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how is it built

how is it built

The desire for open space has been established. It is one of the tools to help create a learning environment where each individual can develop to his highest potential. Open space offers maximum flexibility for unknown future changes. It provides a more spacious, more adaptable, less restrictive environment.

The experience of using open space has been described as unrestrictive. It is, of course, first a response to an educational philosophy. In contrast to the egg-crate plan which is a natural response to a compartmentalized, lockstep educational system, the open space concept goes hand in hand with individualized instruction, and with continuous progress, differentiated staffing, and team teaching.

Essentials in involving people in planning have been noted. To gain maximum effectiveness from the open space school, those responsible for its operation must be deeply involved in planning and operation and committed to its purposes.

Furnishing and equipment needs for open space schools have been described as unique. Space can be subdivided temporarily and everything is movable. The result is a learning environment where many different kinds of activities can occur. This is the totally flexible learning environment that has been sought for many years.

Given the desire for open space and the experience in using it, what then is the best way to design and build it? Fortunately, new building technology and new materials and systems come to the rescue. It is now possible to build large open spaces, with very few interior columns or other permanent obstructions, economically, rapidly, and legally.

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the new ability to build large open spaces

Open space schools tend to be "fatter" buildings, in order to gain maximum flexibility and maximum economy. A larger percentage of the available space is therefore not directly accessible to outside walls for natural light, air, views, and exiting. In the past, both municipal law and physiological requirements prevented such spaces. Daylight was considered essential, windows were needed for ventilation, people expected views of the natural environment, and exiting laws demanded corridors and specific building configurations.

Now, four recent developments solve these former problems and permit large open spaces. (1) Electric lighting is now standard, and laws have been modified to eliminate legal formulas for required window areas (in some states). (2) Air-conditioning makes "interior" spaces acceptable, and laws have been modified to eliminate the need for natural ventilation through windows. (3) Although there has been considerable reaction against windowless schools, the old idea that every small box-like room had to be on an outside wall to gain the advantages of windows has now been superseded by the open space concept in which large spacious areas are created which can be agreeable, especially when ceilings are high enough. (4) Many exit laws have been changed to allow large open areas.

new building technology

For the open space school, large unobstructed spaces are usually desired, with a minimum number of supporting columns, and with very few or no permanent interior walls. In the past, if an economical structure was to be built, spans were limited to about 24 to 30 feet. But now it is economically attractive to build spaces 40 to 60 feet wide, and hundreds of feet long, with no interrupting walls or columns whatsoever. These large "loft" spaces are the long-range investment, and they can be subdivided with movable partitions and equipment (which are shorter-range investments) as specific needs and current programs are known.

Modern air-conditioning and lighting design make such spaces habitable. As in the modern office building that must adapt itself to all kinds of tenants, the open space school generally has a modular and flexible mechanical and electrical system that permits any desired rearrangement of space without costly changes in the air supply or lighting system.

the acoustical environment

One of the persistent problems in open space design is acoustical control. Without heavy sound-resistant walls, the open space contains the often-conflicting noises of many concurrent and diverse activities. The problem can be solved, in part, in a number of different ways. (1) Some noisy activities, such as music, physical education, and shops, are isolated in special-purpose walled spaces; these spaces then are not a part of the completely open space environment. (2) Noise from a single high-powered audiovisual speaker is replaced by a number of smaller, low-powered speakers to blanket local areas; or students wear individual headphones. (3) Acoustical, sound-absorbing ceilings and floors (carpeting) absorb much sound, eliminating uncontrolled reflection of sounds. (4) Carpeting eliminates generation of sounds from feet and equipment moving across floor surfaces. (5) Introduction of a low hum in air circulation vents or of other "acoustical perfume" tends to drown out distracting sounds. (6) Changes in teaching methods from reliance on lectures and large group presentations, to more use of independent study and small group discussion in and of itself eliminates some of the major noise sources in the school.

In addition to the methods of reducing noise noted above, the acoustical "problem" in open space schools is often partially solved by a new attitude toward sound on the part of teachers, students, and citizens. The traditional school (and especially its library and study hall) was a "quiet" place where silence was demanded, and in a quiet place every little sound becomes a distraction. This was in strong contrast to the "open spaces" of the business world's offices, banks, restaurants, and laboratories where a low level of background noise created an "acoustical perfume" that actually masked out individual noises. In the large busy restaurant, with a background hum of activity, four people at a table can converse in complete privacy and usually do not even hear the conversations at adjacent tables and are not bothered by them. Having grown up in, becoming familiar with, and expecting this kind of atmosphere have led people to be perfectly comfortable and unaware of sounds in the background.

Today, in education, some new attitudes toward sound are becoming evident. In the open space school, that same background hum (which is created by many conversations, by activity, and by air-conditioning equipment)

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tends to mask out and hide individual sounds. One can enjoy a certain degree of privacy, or carry on a conversation in a small group without bothering others or being bothered by them.

Since comparisons are inevitably made to experiences one has had in the traditional "quiet" school, the new acoustical environment does take some getting used to. The successful open space school is often one in which people, particularly teachers, have adjusted successfully to the activity and the new acoustical environment.

utilizing existing buildings

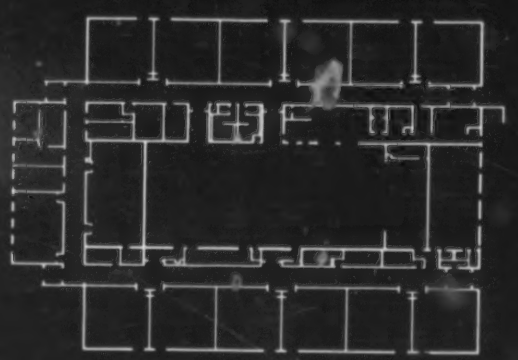
The open space school idea is not necessarily limited to new buildings designed originally for such programs. Some existing structures can be adapted by removing some of the old walls, especially when the existing structure is a modern "framed" building with columns and beams carrying the loads.

In Cherry Creek, Colorado, for example, "old" (post-World War II) buildings have been updated and new open spaces created by removing some of the original walls between classrooms and corridors and by adding carpeting and new furnishings to these areas. Taylor Elementary School in Arlington, Virginia, a converted finger plan, now has a variety of teaching spaces, from self-contained to completely open.

Whether single or multistory, the typical American school, with classrooms on both sides of a central corridor can be opened up simply by removing corridor walls. The new open space areas are served by existing exits at opposite ends of the space.

Any district can experiment with open space school programs by utilizing existing buildings. Much experience can be gained, staff can participate in the planning and training for use of open spaces, and criteria can be established for the design of new buildings. Different kinds of space dividers can be tried and new kinds of furniture can be tested in open spaces created within older buildings. In making purchases, planners will want to remember that young students will naturally want to sit on the new carpet and this fact tends to decrease the amount of furniture needed.

Concurrently, in this experimental open space in older buildings, new instructional methods and new educational programs can be developed. Individualized instruction, continuous progress, differentiated staffing, team teaching, and other concepts closely associated with the open space school can be developed and evaluated.



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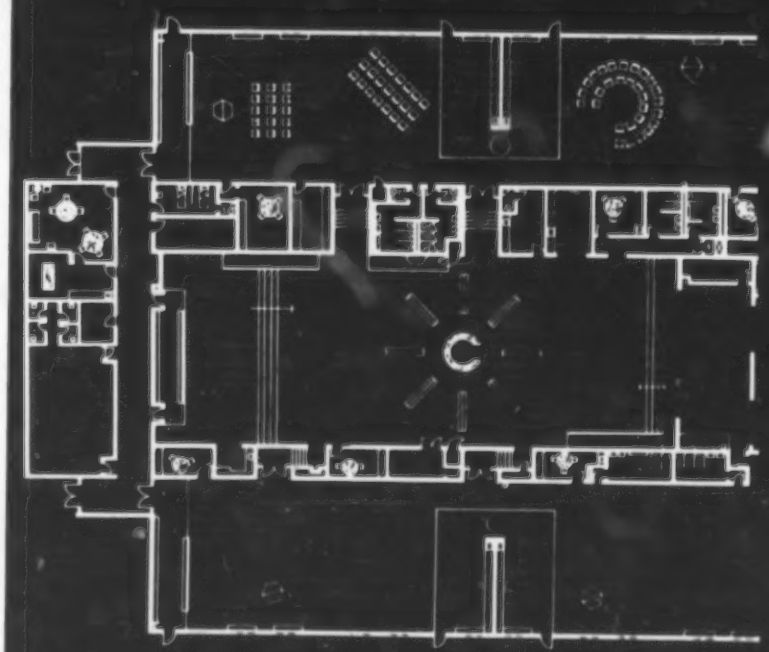

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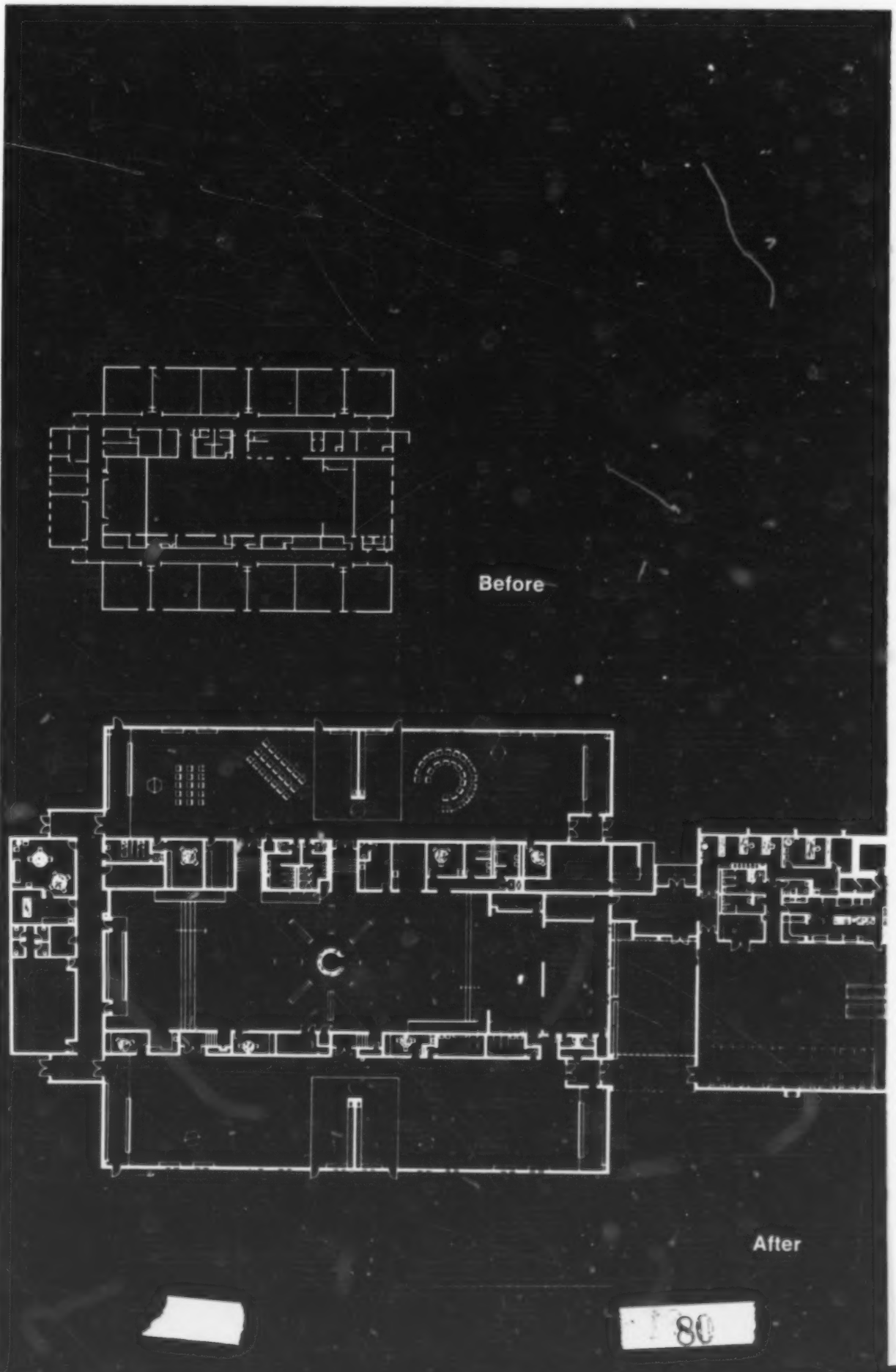

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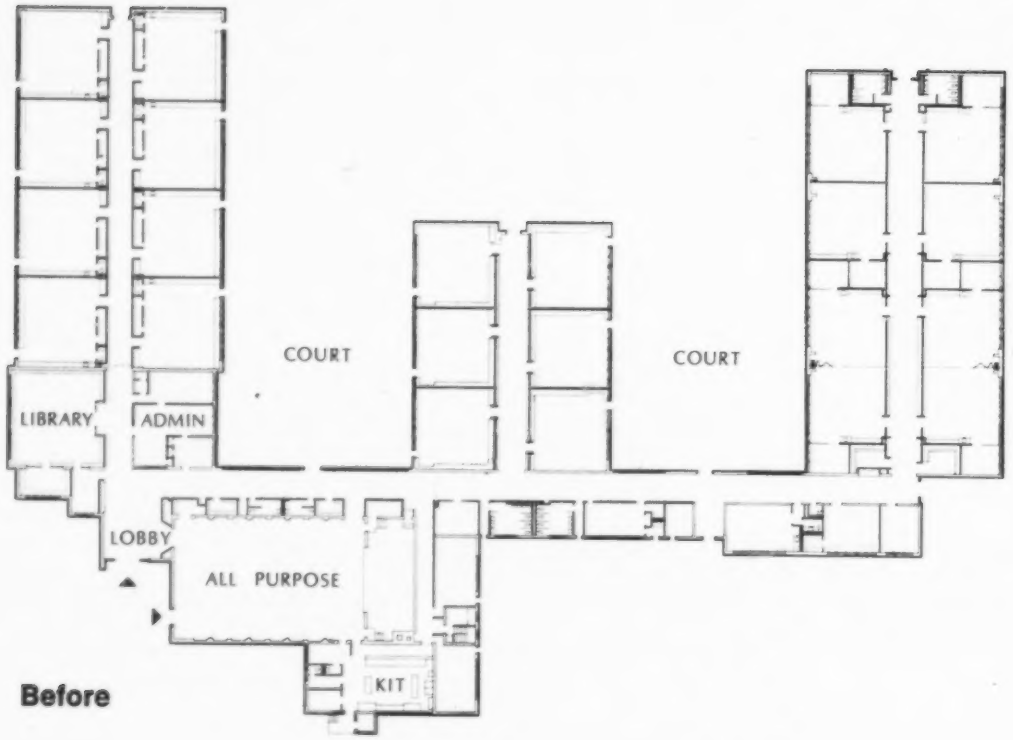

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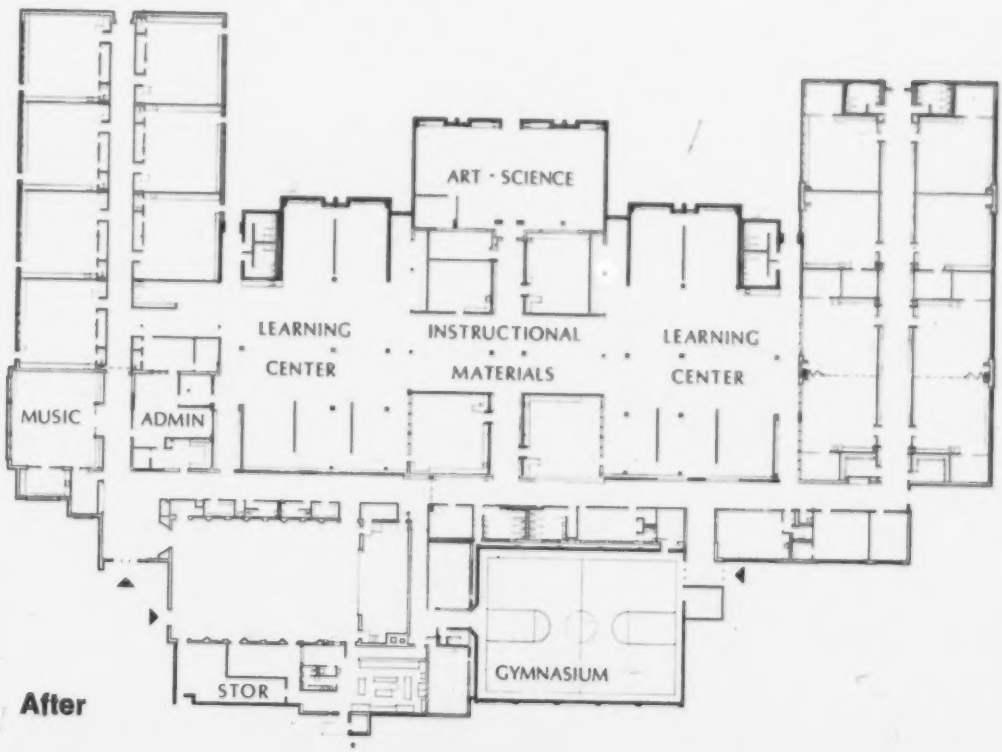
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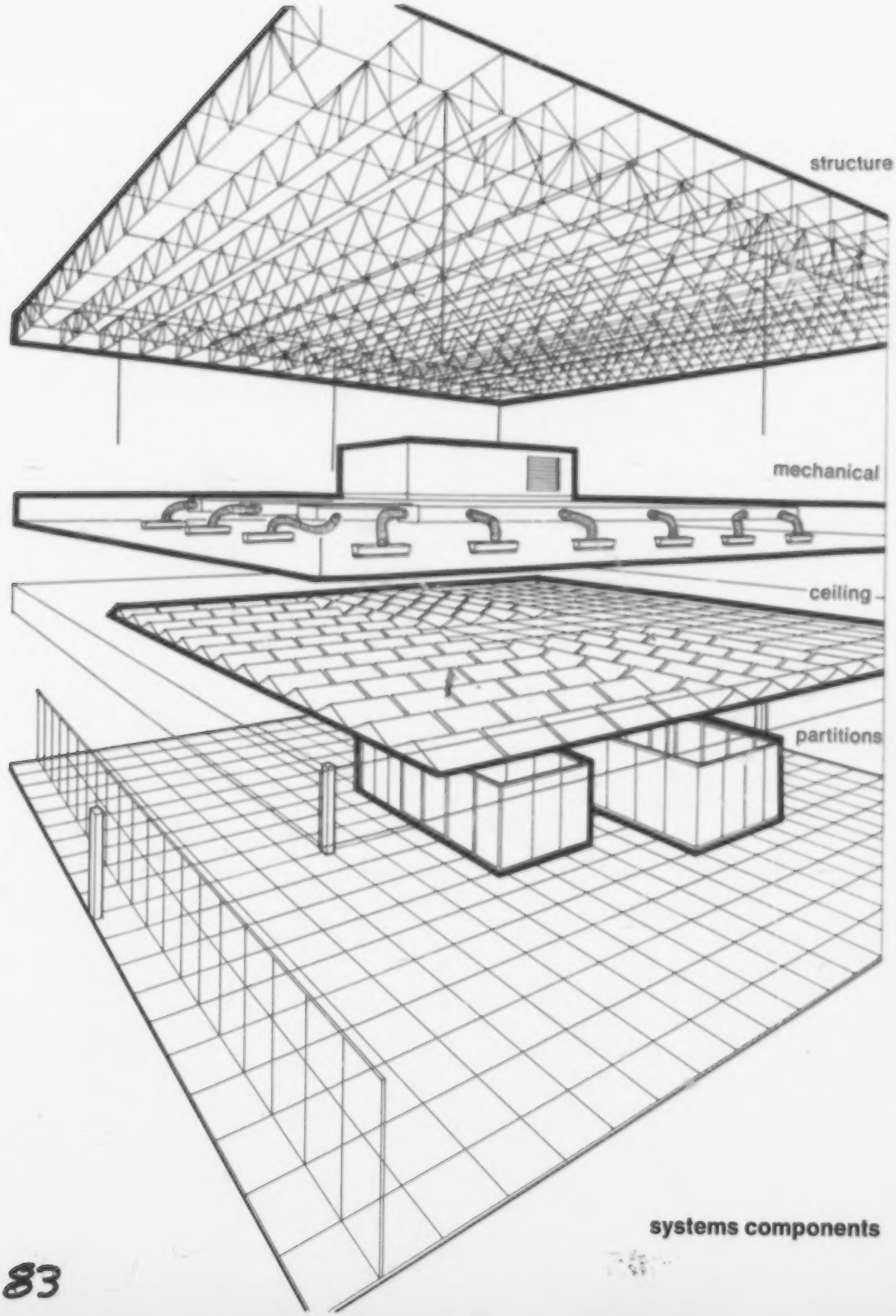

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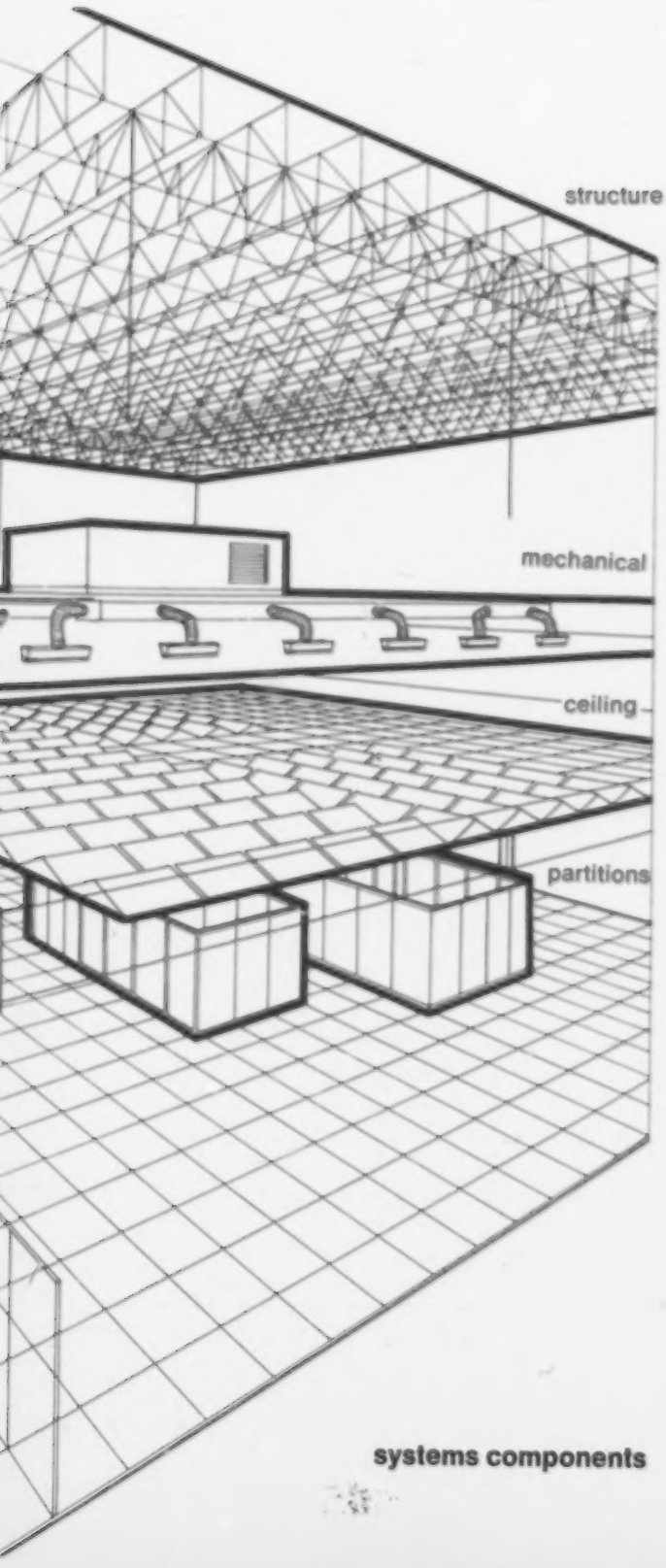


systems components

what will it cost?

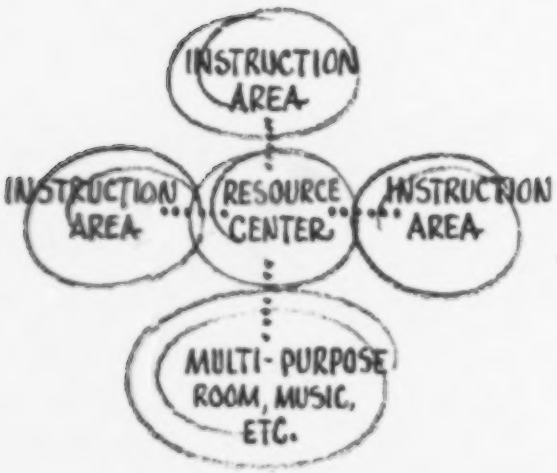
Frequently, the open space school costs less than the traditional egg-crate school, with classrooms lined up along corridors. One reason for this dollar saving is that open space schools often require fewer square feet of space. The amount of space devoted to corridors is considerably reduced. In the open space school, a larger percentage of the total gross area is devoted to net usable area.

In addition to this saving in area, the modern, compact, air-conditioned systems building is sometimes more economical to build than the attenuated and more complex finger-plan building. Large open spaces are ideally suited to repetitive and economical systems building, in which fewer structural and mechanical parts are utilized, thus permitting faster and more economical construction.

One note of caution. There is a temptation to adopt the open space concept simply because it requires less total gross floor area, and therefore can be slightly less expensive. There is also the temptation to reduce the total area even further, packing more pupils into the compact open spaces, and eliminating very important (but unfortunately dispensable) extra spaces, such as music rooms, shops, studios, and other creative workplaces. These "extra" spaces, however, are essential to a school emphasizing individual instruction and a comprehensive program.

Arbitrary reduction of area can result in overcrowding, loss of space for special and individualized activities, and a general loss of quality in the educational program. The good open space school, on the other hand, will be designed with a proper balance of both open spaces and closed spaces for noisy and specialized activities.

If the open space concept seems attractive, the sound reason for embracing it is that it provides a better educational program for all students, not merely that it proves to be more economical.

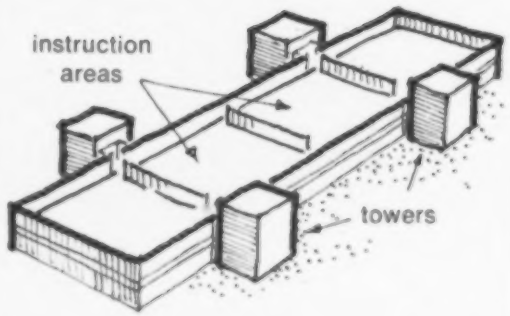


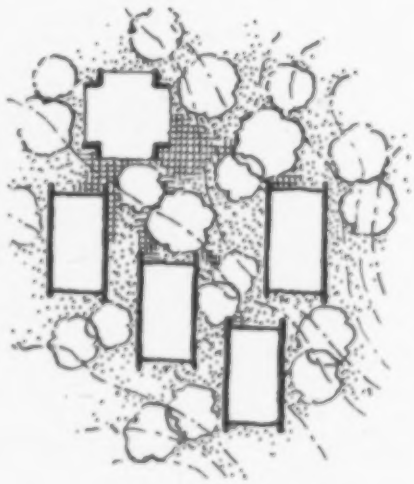
Most open space schools constructed to date have been one-story, small or medium sized elementary schools, as shown by the many examples presented in the last section of this book.

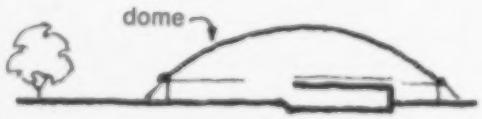
In the most common plan, three or four open space instructional areas (each for 100 or more students) are clustered around a central resource center, and non-open-space facilities, such as gyms, multipurpose rooms, or music suites, are grouped together in a separate area. The entire school, however, is usually under one roof, with a rather compact plan.

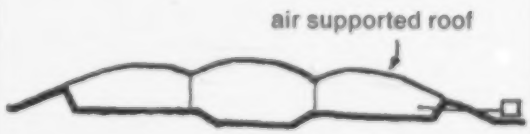
The open space school concept is not limited to the above design and its subtle variations. Examples in the last section from Federal Way, Washington, incorporate a campus plan design, with each of five or six units being a 60-foot wide column-free structure. The schools in Concord, Massachusetts, and in Rockaway, New Jersey, are two stories. Chicago's Disney Magnet School is a large school with instructional areas for 200 pupils each, in a four-story structure. The high school in Mariemont, Ohio, consists of a two-story cluster of hexagonal units, arranged on a hillside.

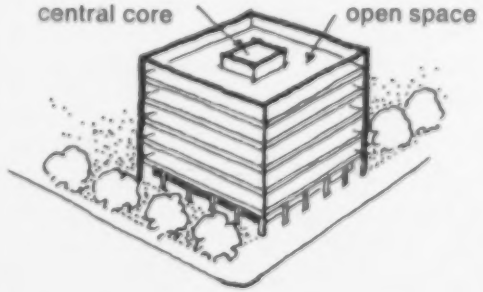
Other building designs will logically evolve from analysis of the special educational needs of each community and the unique nature of each site. The small but long narrow site will











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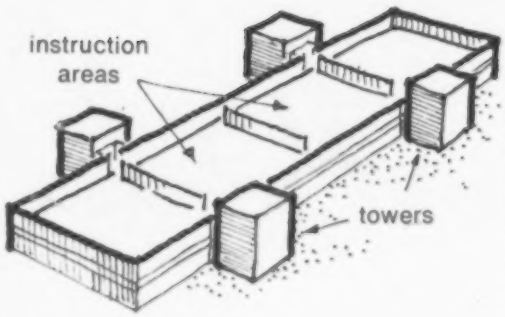

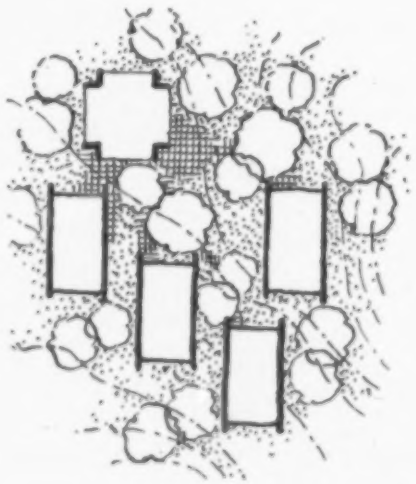

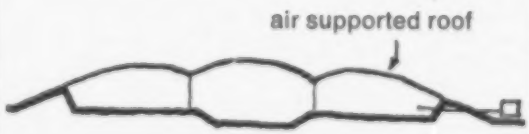

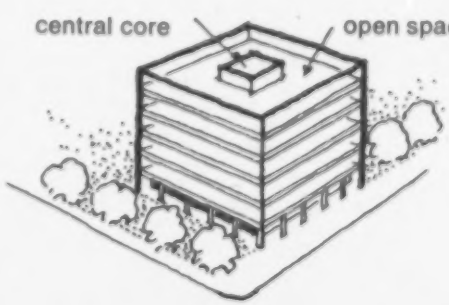

suggest a multi-story lineal plan, with flexible open spaces served by fixed towers for stairs, toilets, and mechanical equipment. The spacious and beautiful wooded site will suggest a number of related units worked into the existing tree pattern to preserve and enjoy the natural setting.

The open space school is not limited to conventional flat and pitched roof structures with rectangular, hexagonal, or other rigidly geometric plans. In fact, many of the exciting new kinds of structures can ideally serve the open space concept. In Flushing, New York, the Paul Klapper School has 150 pupils in a domed structure (as a satellite to other nearby more conventional buildings). Tent-like structures with cable-supported roofing can create varied and interesting three-dimensional open space. Finally, one of the most exciting and significant new structural concepts—the air-supported structure—might be an ideal enclosure for an interesting and innovative school without walls.

In the city, where land is scarce and costly, a high-rise building with a fixed central core surrounded by open space will be an appropriate design. This building form has evolved as the most economical solution for the modern office building which also demands great flexibility through the use of open space.

In urban areas where other sites are not available, a bridge-like structure for a large high school spanning a depressed expressway will be a possibility.

The point made here is that the open space school concept is not limited to either a particular age level or to a particular building form. It is first of all an educational concept. Many different architectural forms will develop to satisfy the educational needs of many different kinds of communities.

An impressive number of open space schools have already been constructed and are in use in America. On the following pages, a review of some of the most interesting examples is presented. Many of them were exhibited at the annual Exhibition of School Architecture at Atlantic City, sponsored by the American Association of School Administrators in cooperation with the American Institute of Architects. No attempt has been made to evaluate them, either as architecture or as educational programs. It is suggested, however, that this growing concept is an important available tool for creating a learning environment that is more adaptable, more spacious, less restrictive and less rigid, to help encourage new kinds of learning programs.

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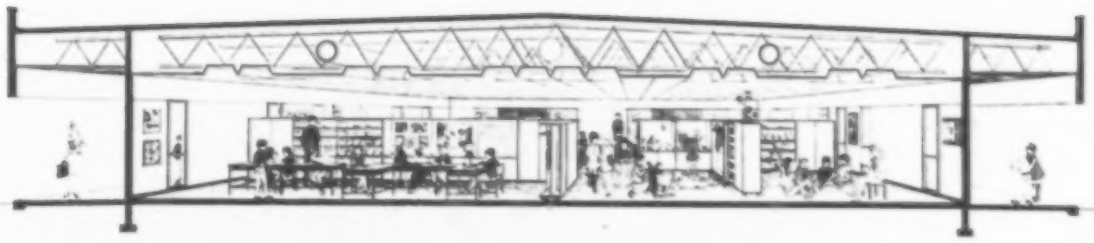

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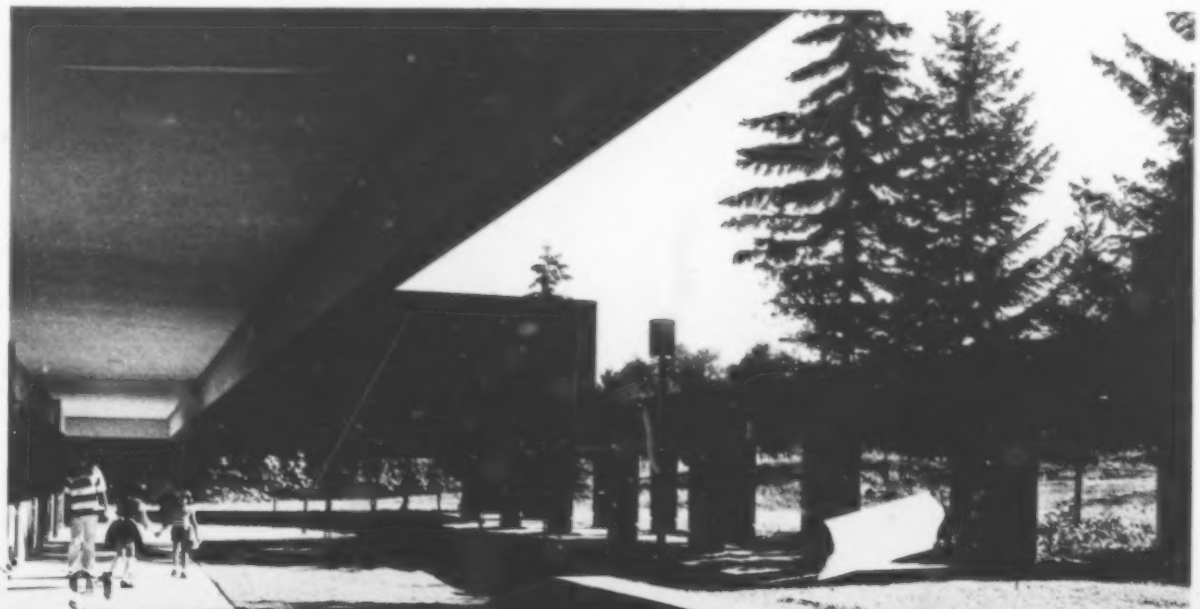

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Brigadoon Elementary School
Federal Way, Washington

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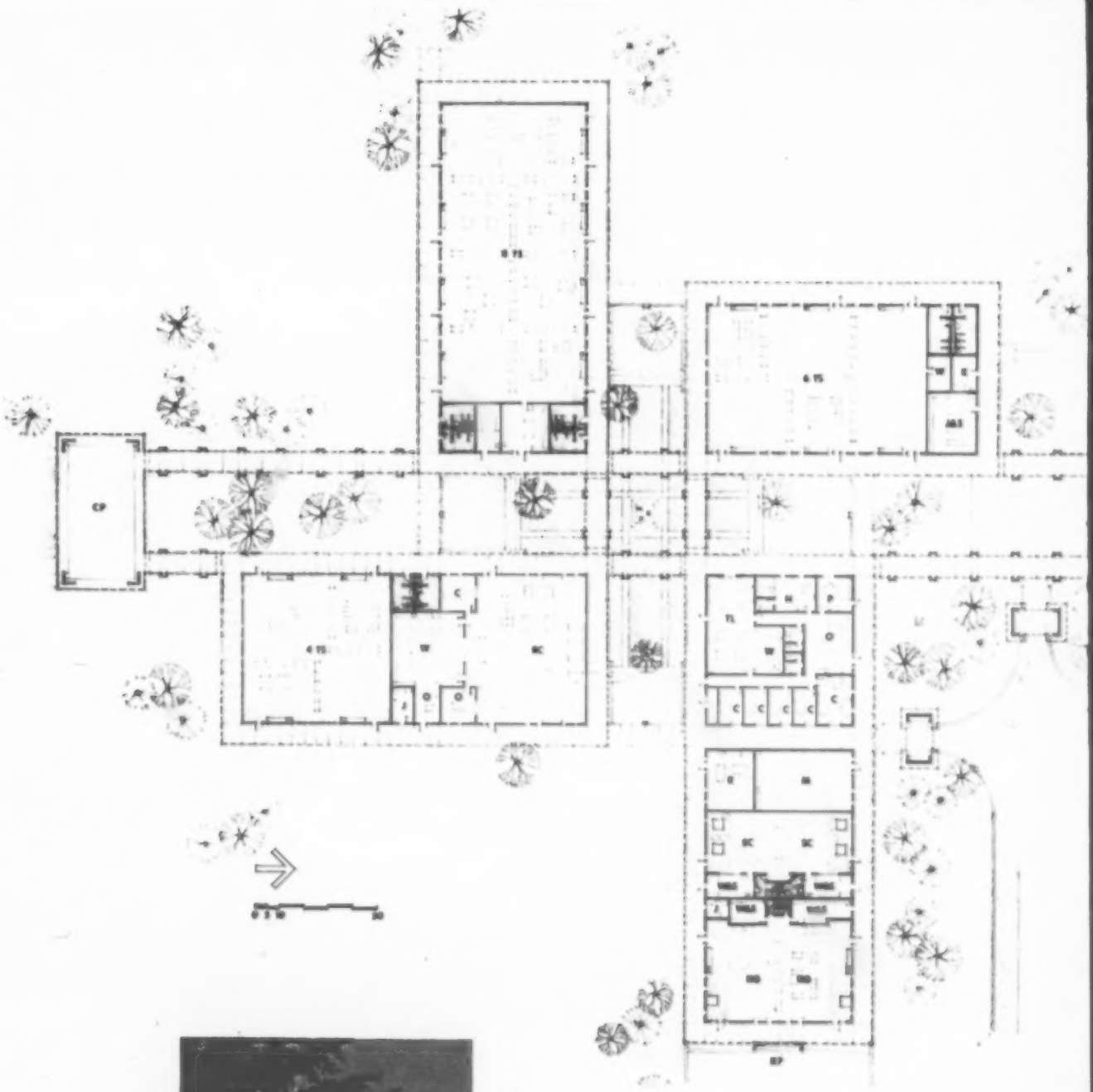
This elementary school and the one following each serve 624 pupils in similar ungraded programs. Both schools are 60-foot clear span structures using a systems approach to construction. All corridors are on the exterior of units. Brigadoon Elementary School has an exterior of stained hemlock siding.



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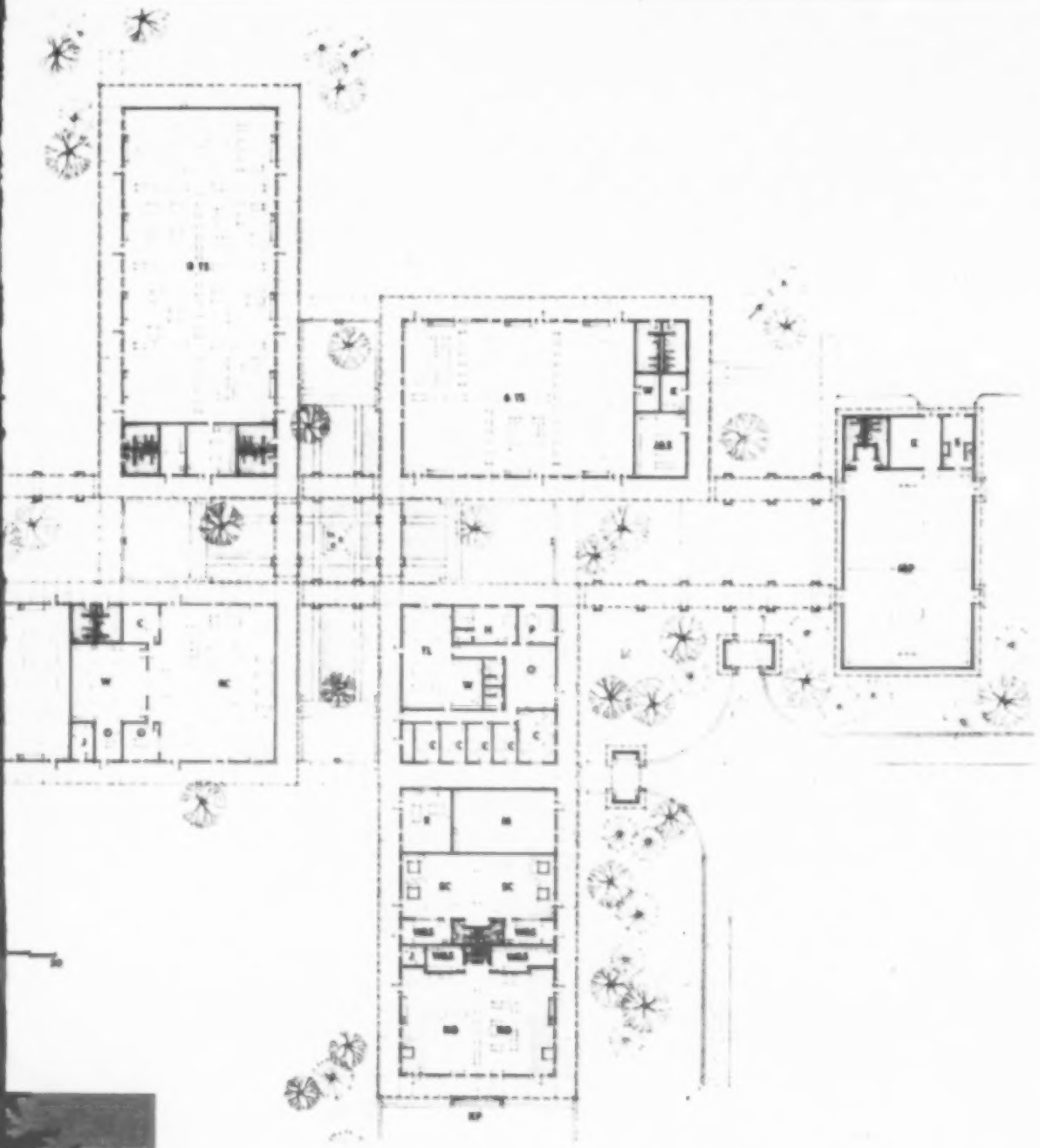
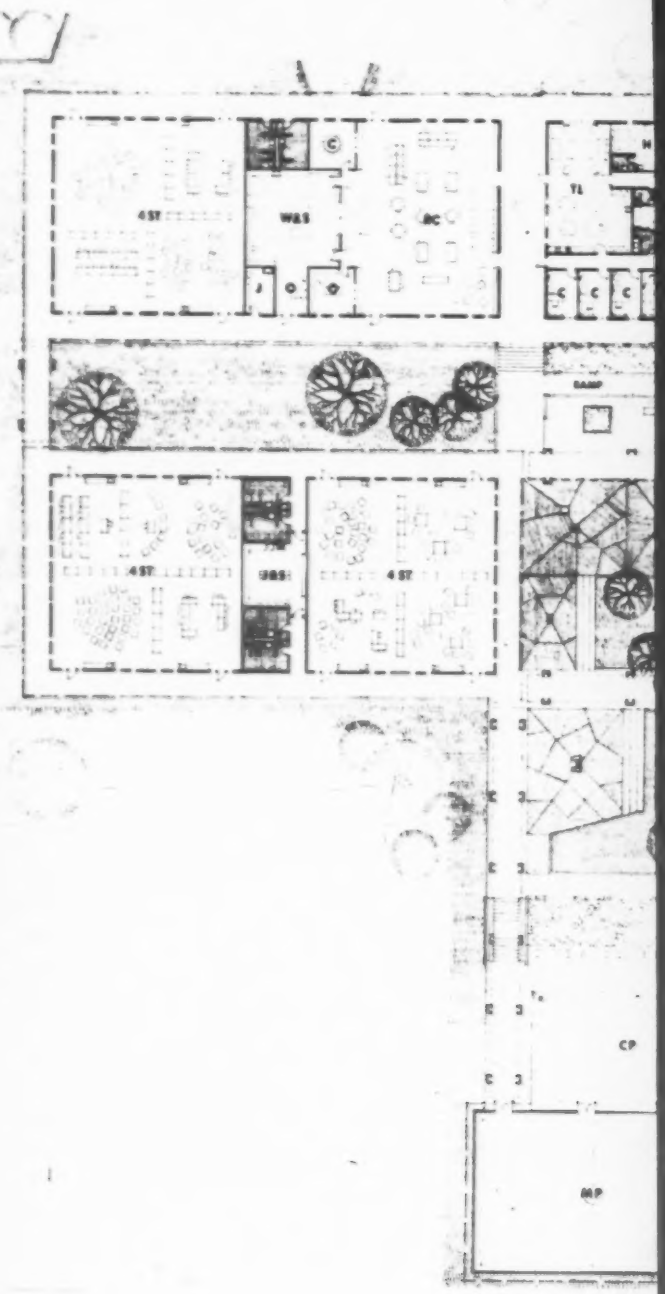


Robert Billsbrough Price &
Associates, architects
Murray A. Taylor, superintendent

Nautilus Elementary School
Federal Way, Washington

Nautilus, located on a relatively steep site and with an exterior of cedar siding and shingles left to weather naturally, takes on a different appearance, but employs the same system. All teaching areas except music, remedial, and special education, as in the previous school, are open spaces.



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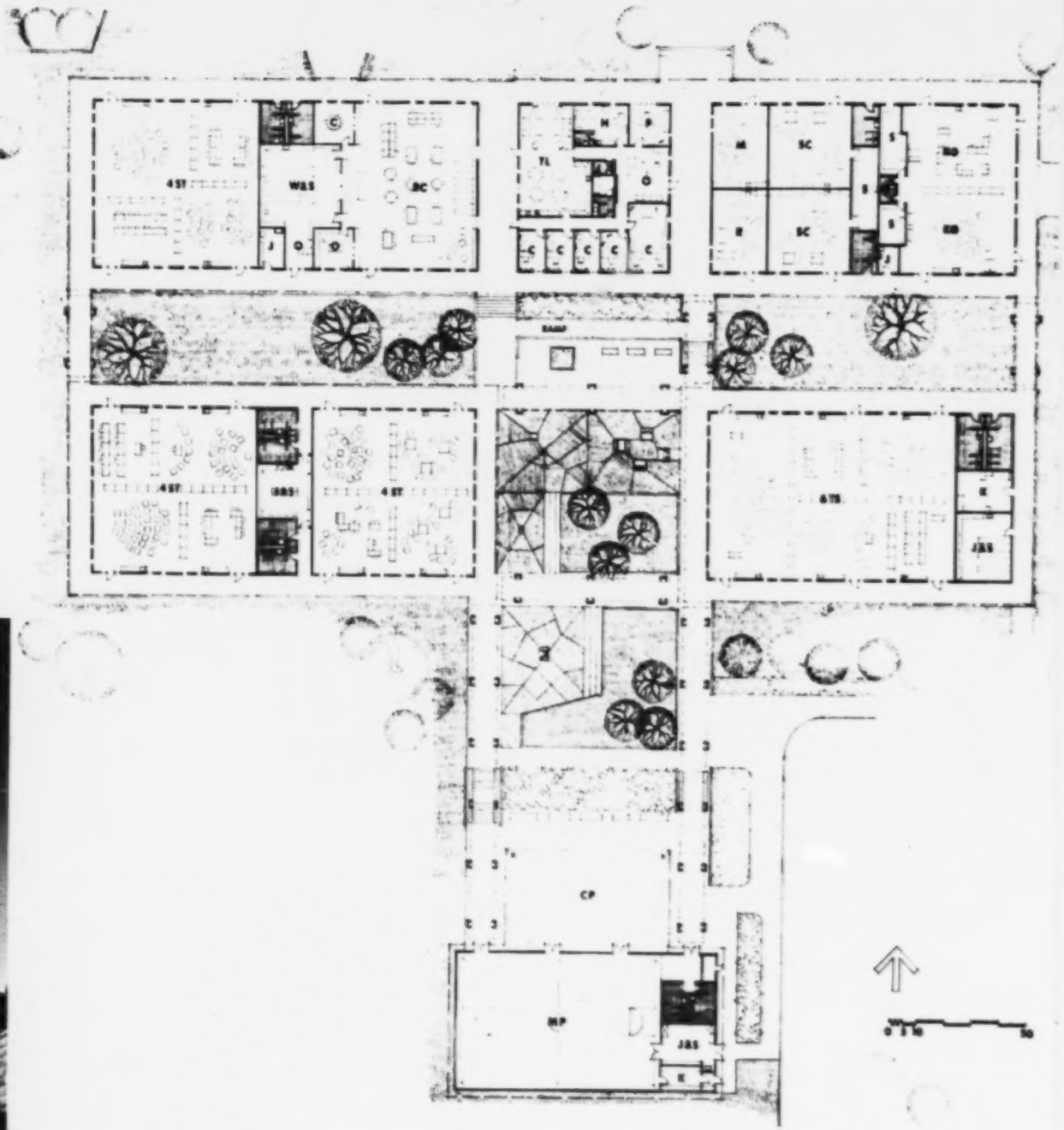

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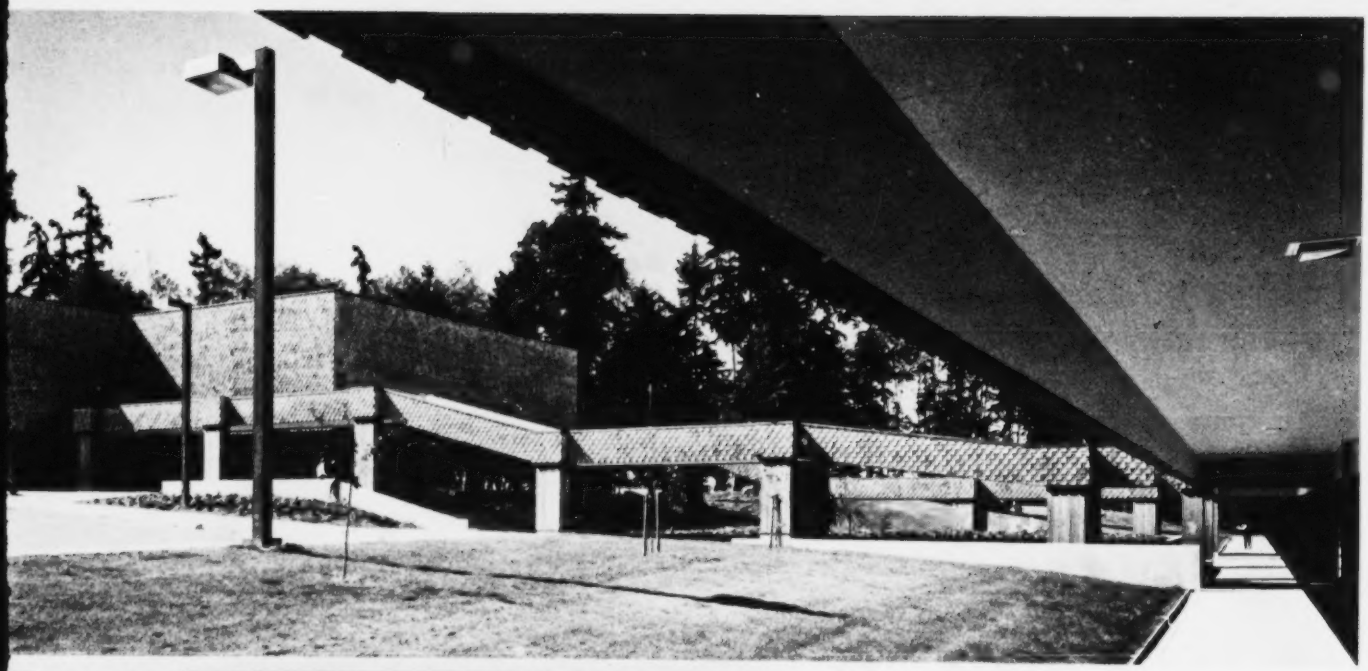

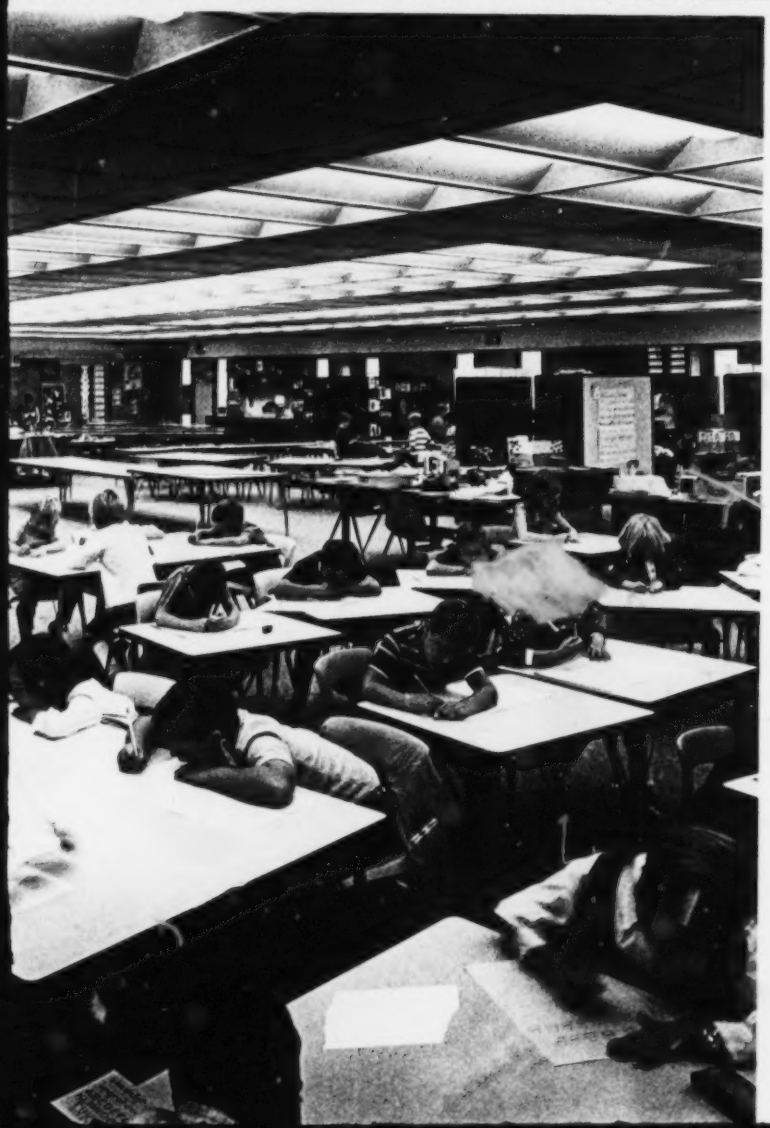

Robert Billsbrough Price &
Associates, architects
Murray A. Taylor, superintendent

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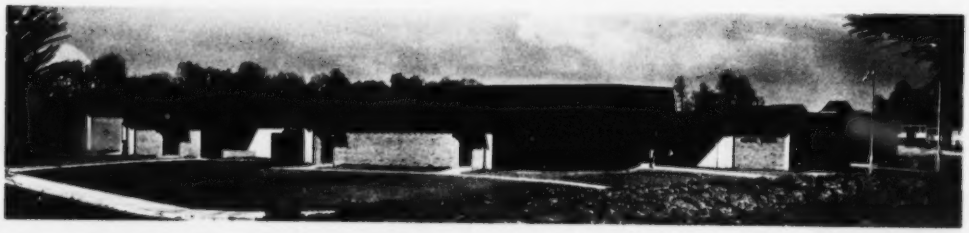
Wilde Lake Middle School
Columbia, Maryland

Open plan 6-8 grade middle school with a "snowflake" design, and open learning centers flowing out from the core containing instructional materials, performing arts-planetarium, and student commons. Three open academic houses with their own planning, guidance, and storage areas have pie-shaped wedges between them with locker and toilet facilities.
Noisy activities are grouped together in separate units.



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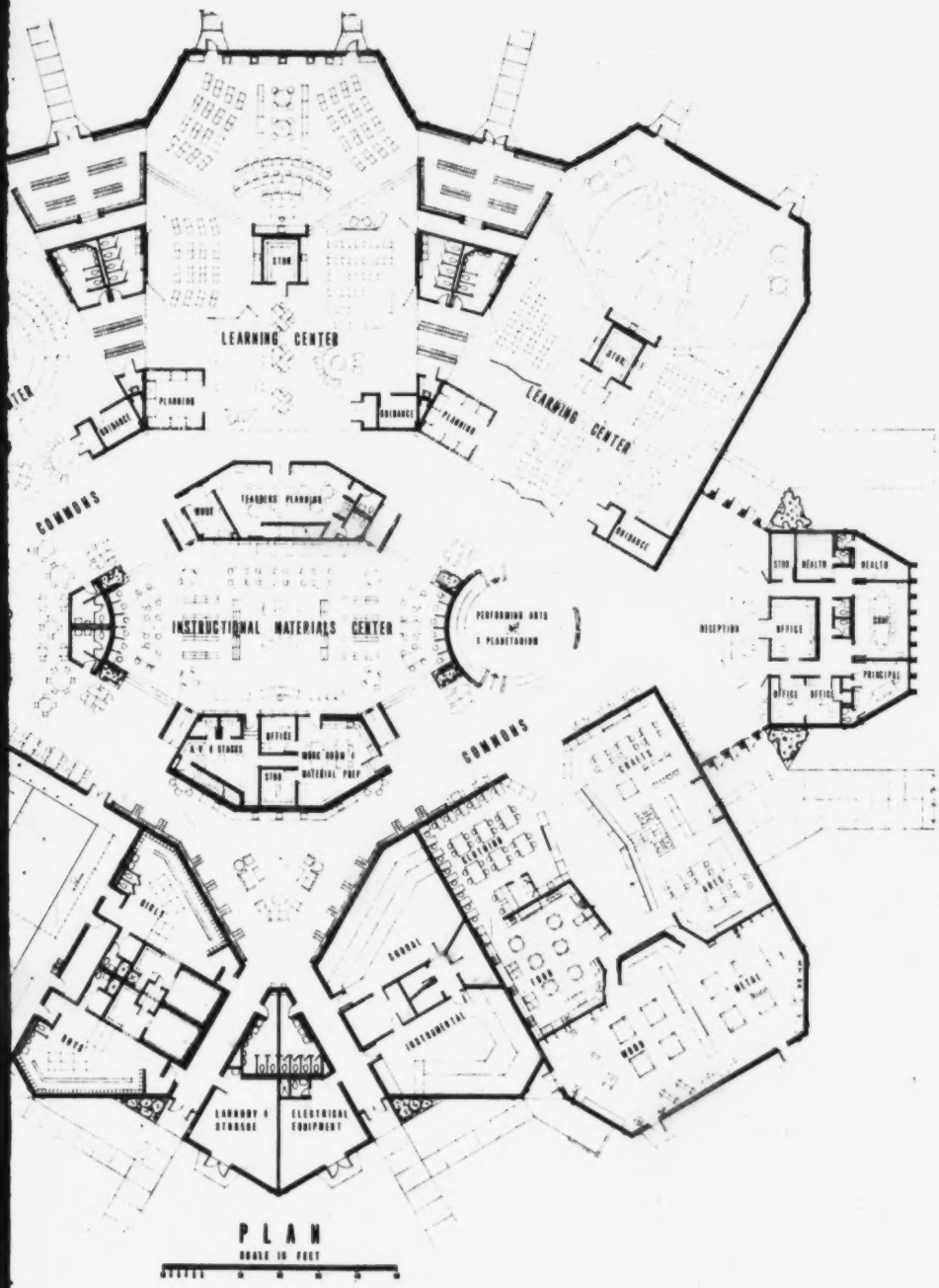

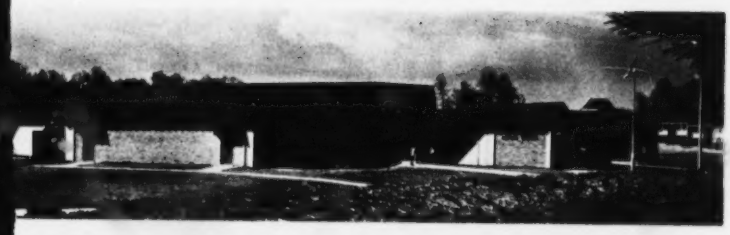

Johannes & Murray & Associates, architects
M. Thomas Goedeke, superintendent

Evergreen Junior H
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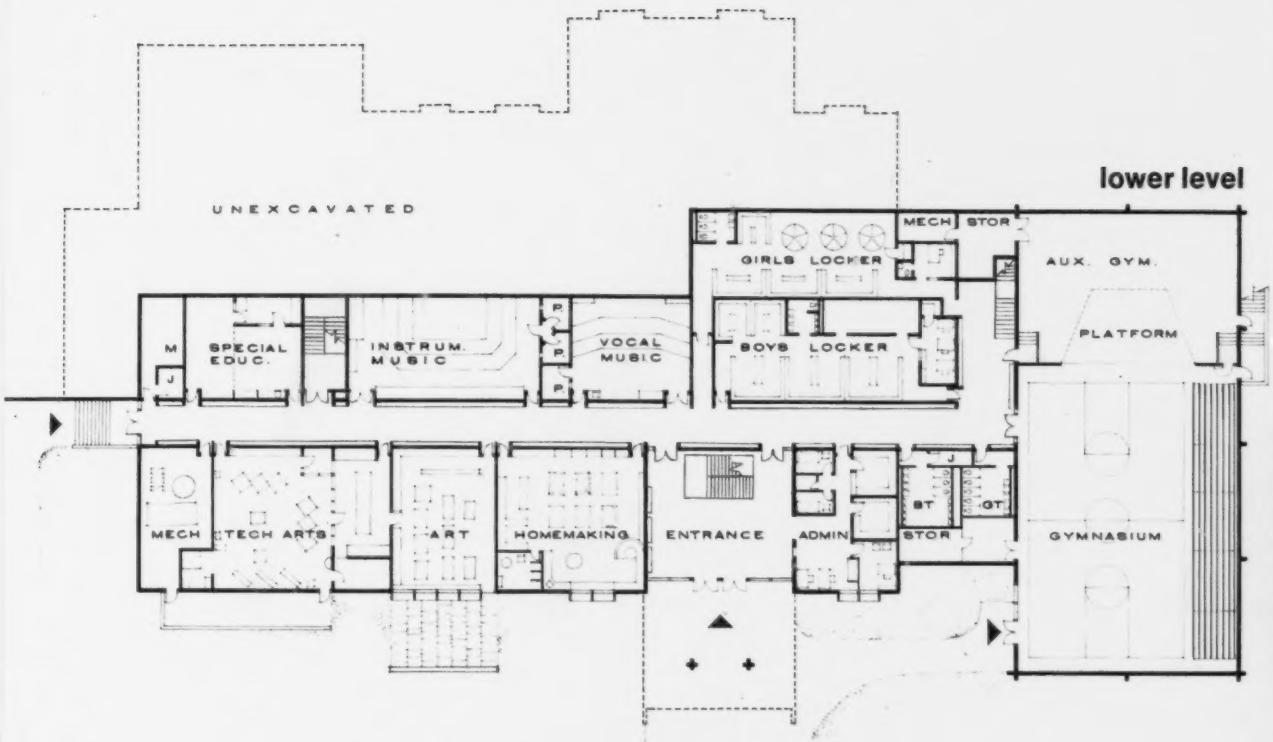

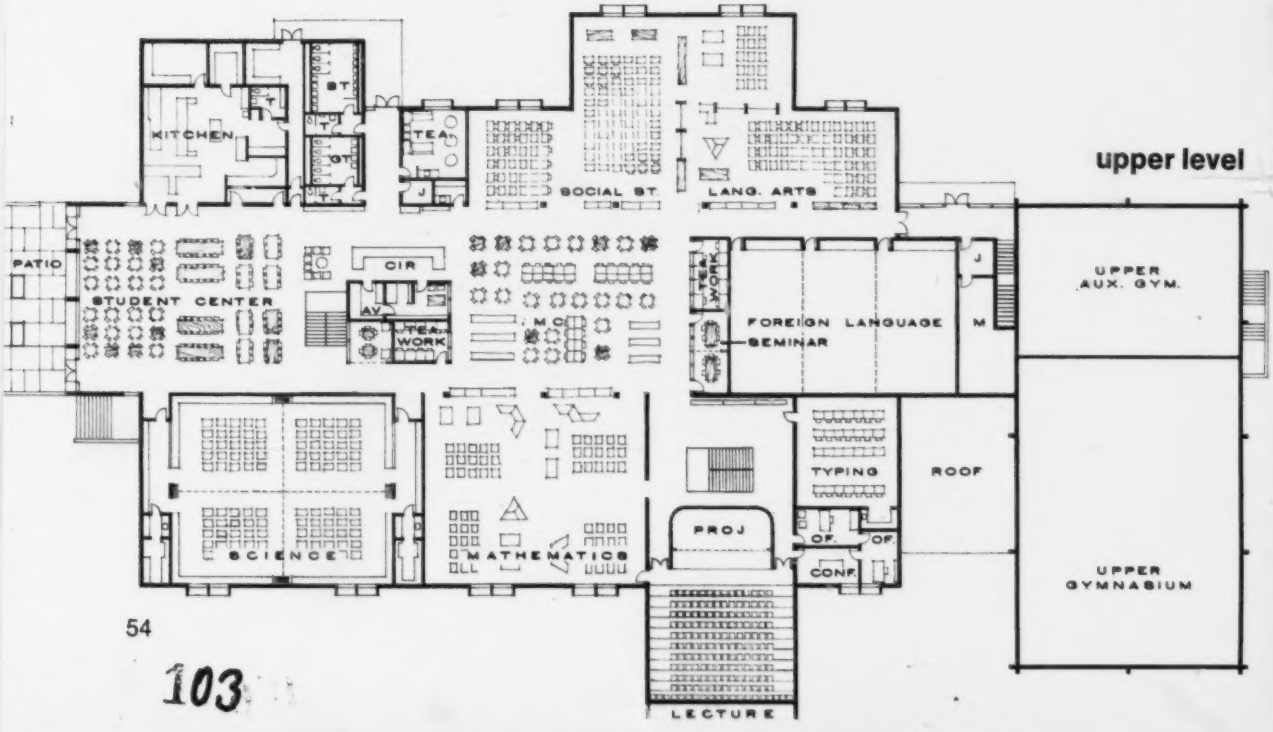

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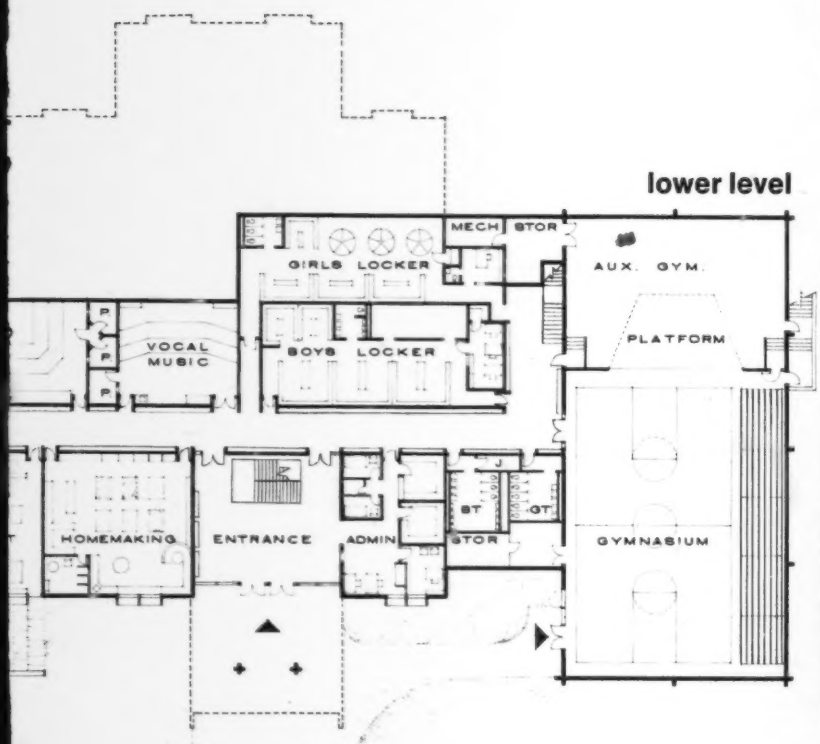
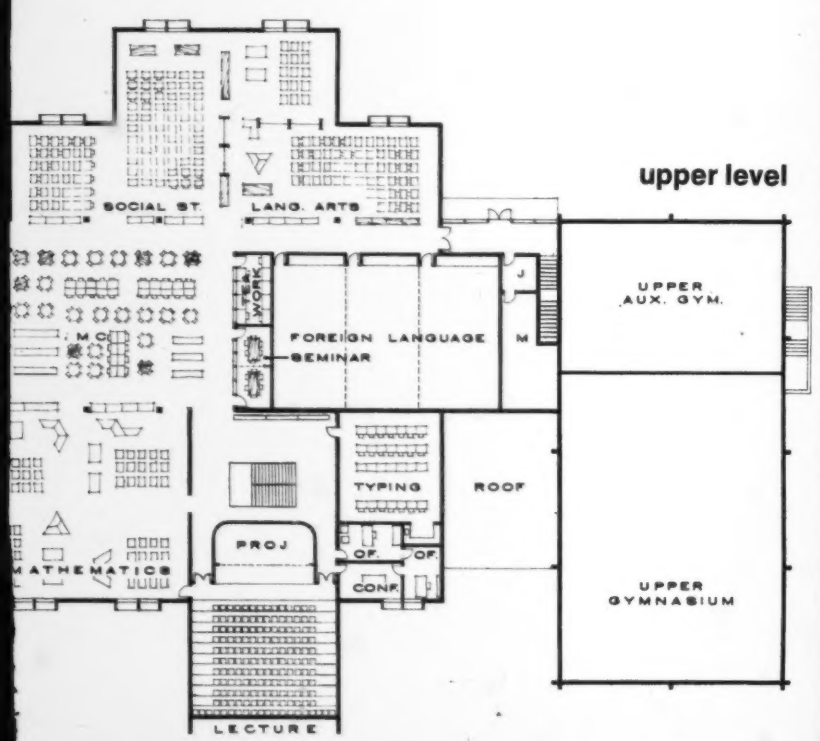
Evergreen Junior High School
Jefferson County, Colorado

A compact, two-level junior high school serving 800 students in grades 7-9, and using native stone on the exterior. Specialized and more active programs are accommodated on the lower floor in well defined spaces. Upper floor is basically open space; all partitions, except those around kitchen and toilets, are demountable panels easily relocated as needs change.





Lamar Kelsey & Associates, architects
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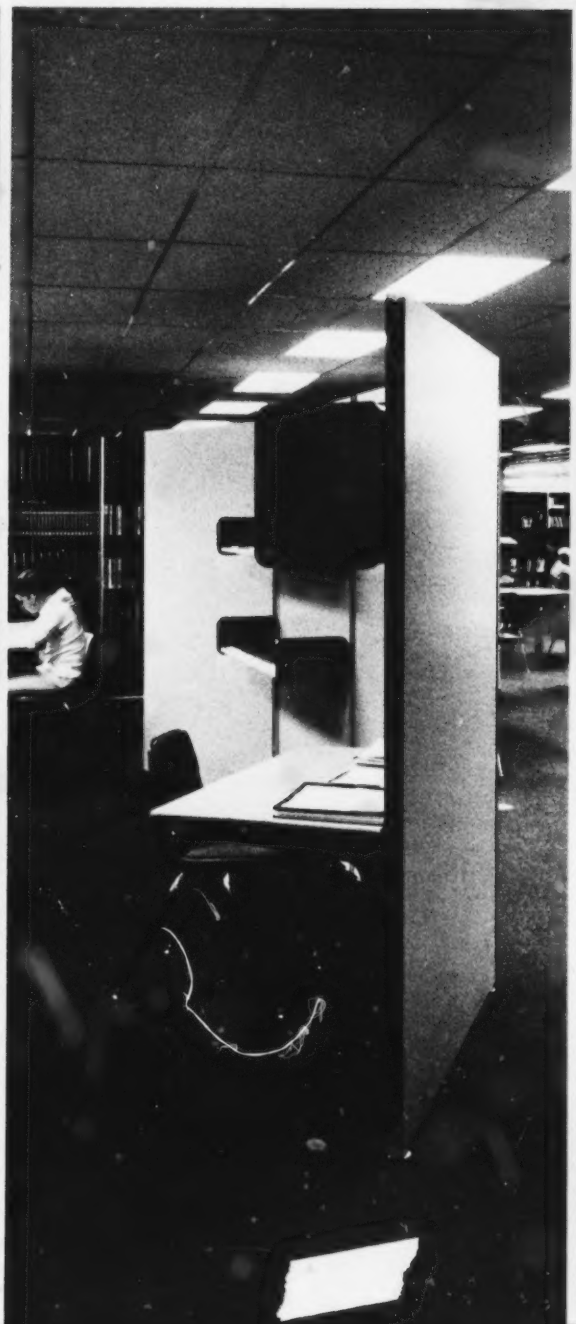
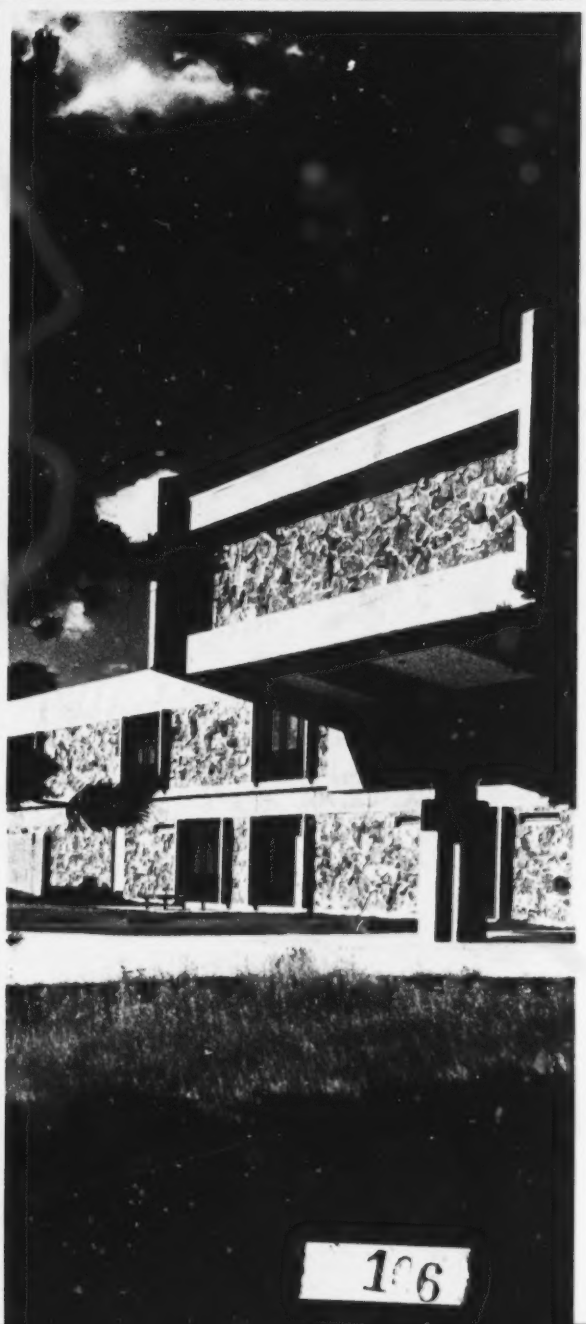
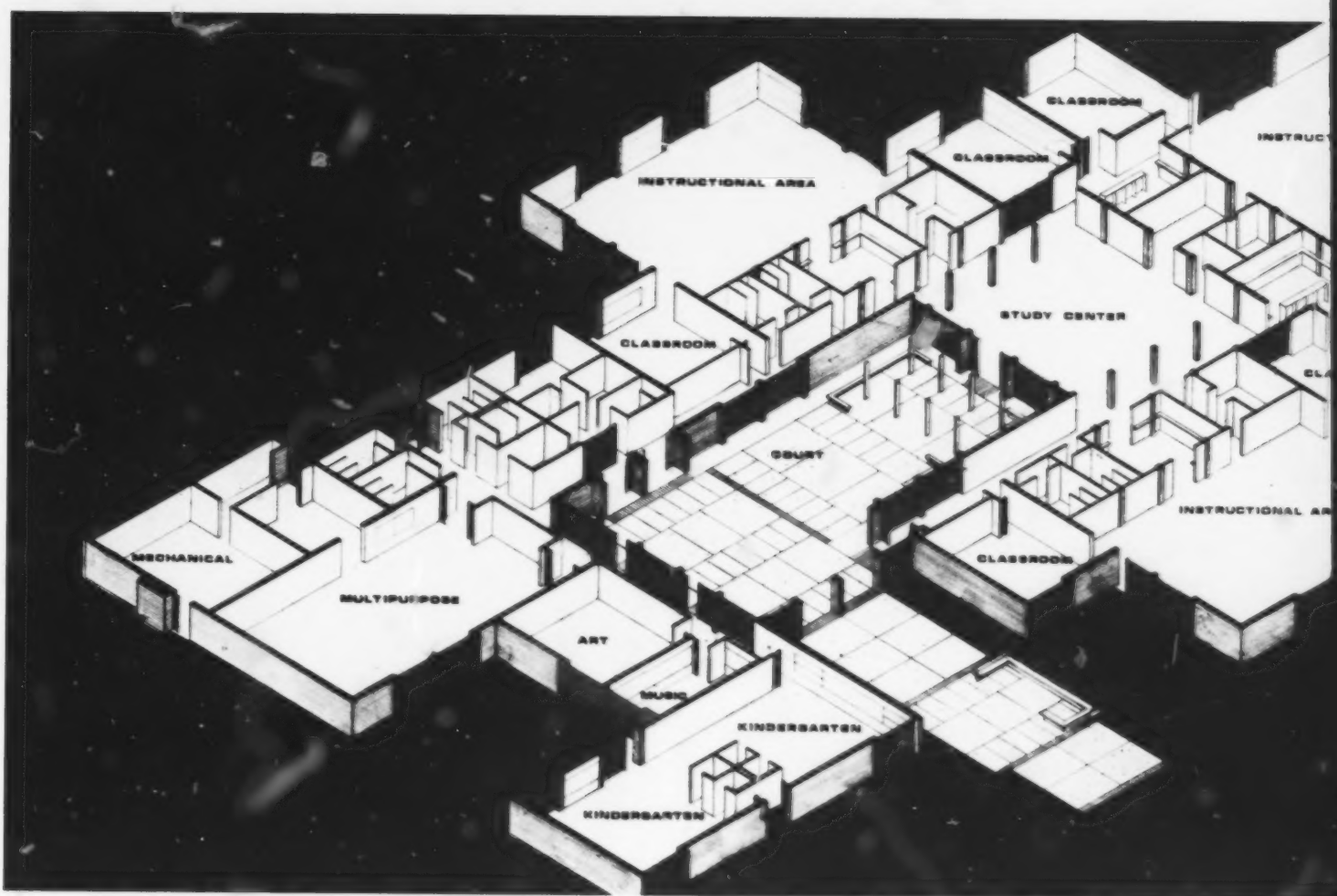




Butternut Elementary School
North Olmsted, Ohio

Perkins & Will and Lesk
Associates, architects
Robert A. Van Auken, s

Compact K-6 elementary school for 660 students using a series of medium and small spaces that flow together without any interrupting doors, but not big, impersonal open space. Instructional areas are grouped around a study center. Multipurpose, art, music, and kindergarten are at the other end of the building.



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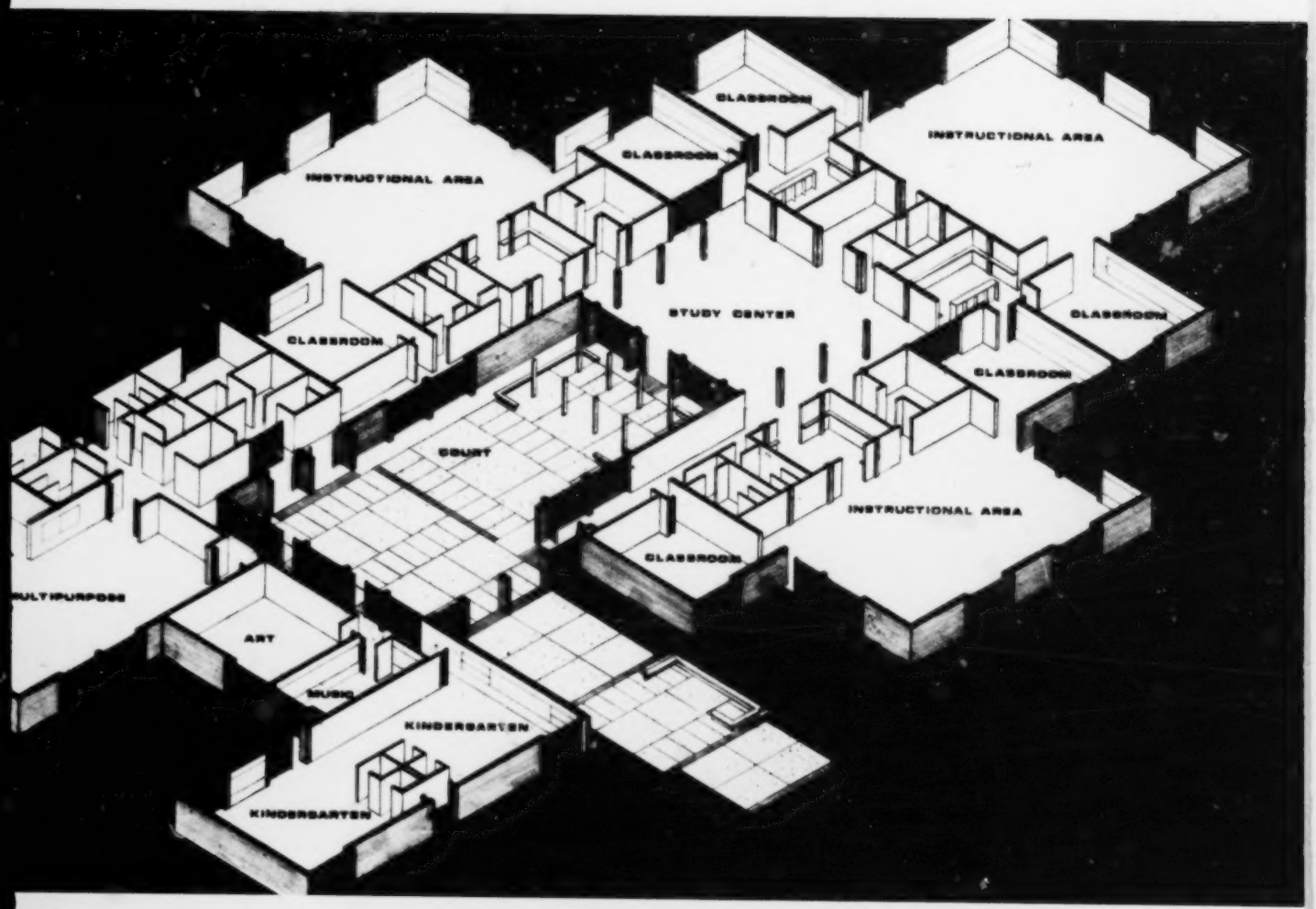
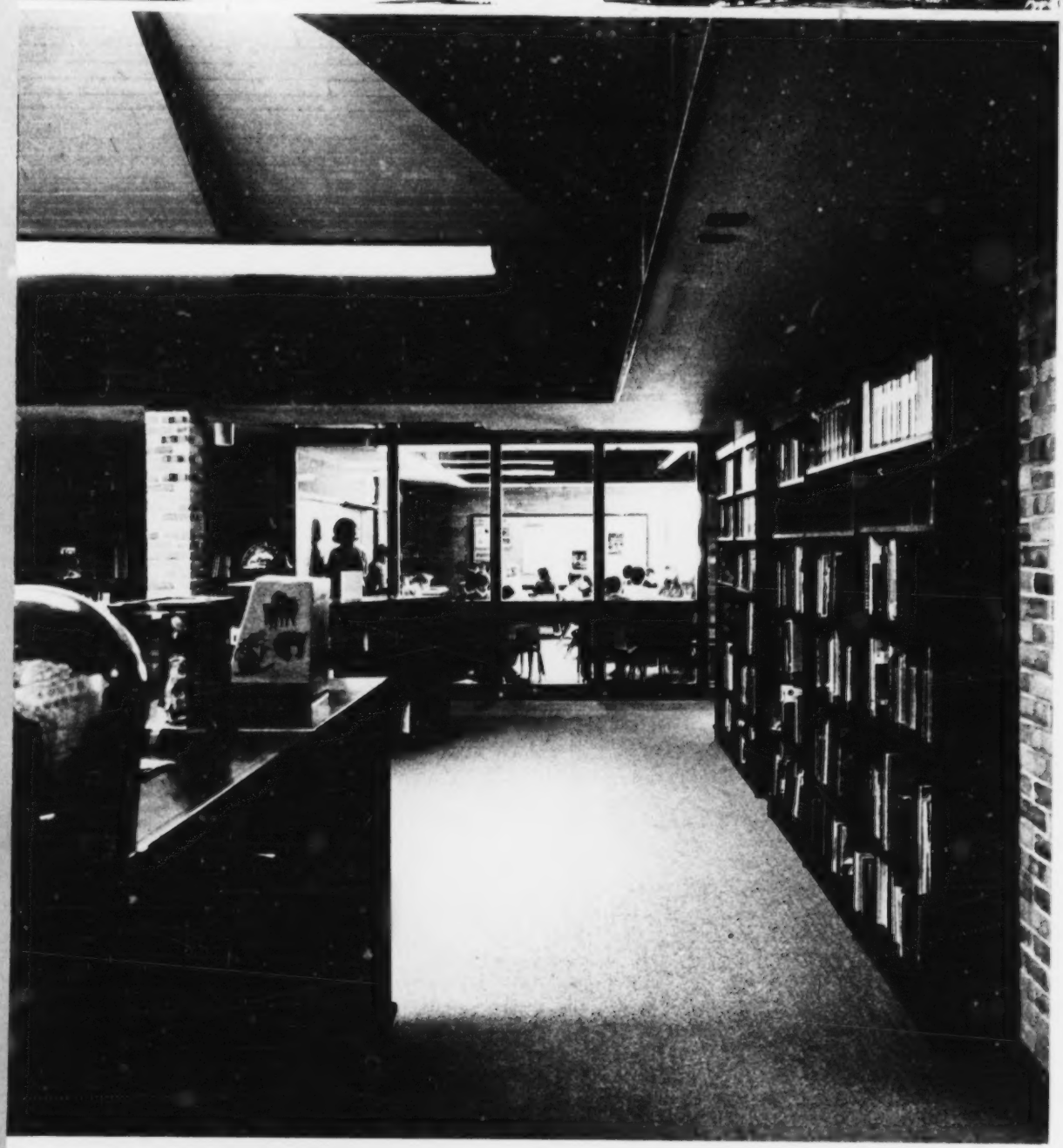
Perkins & Will and Lesko
Associates, architects
Robert A. Van Auken, superintendent

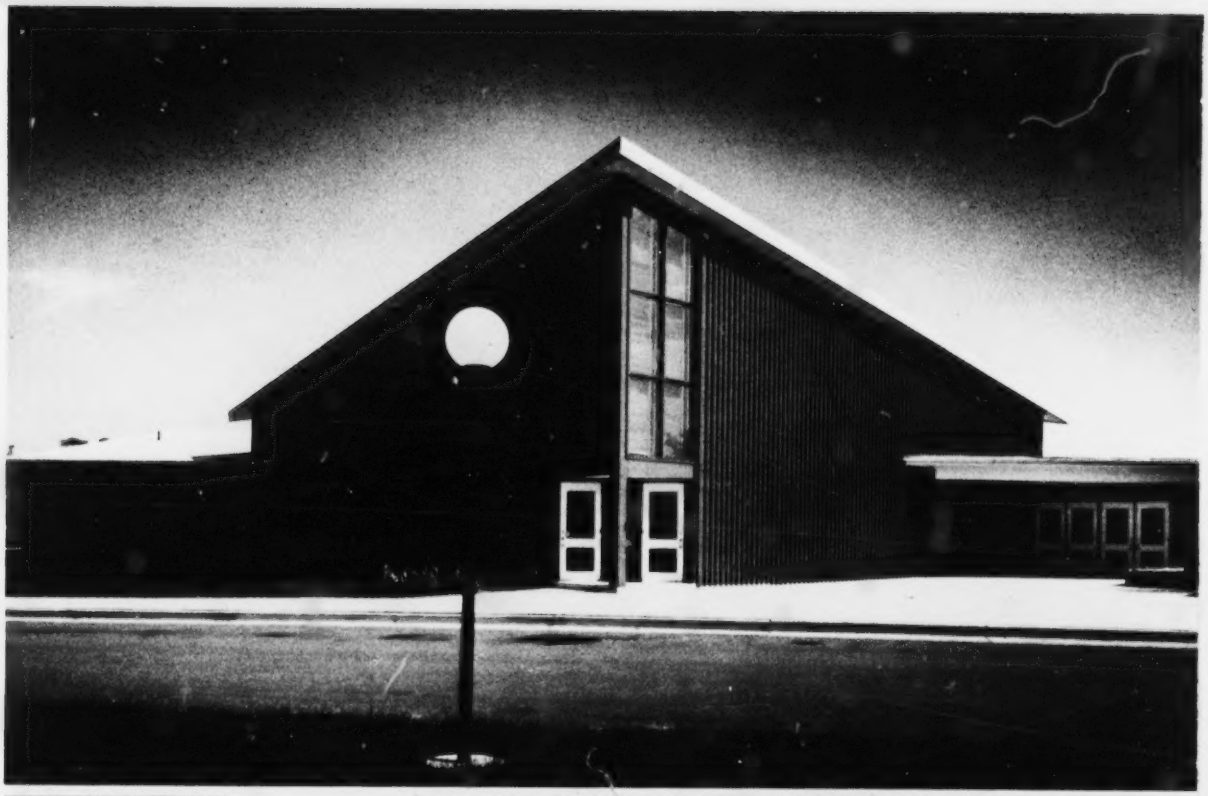
Compact K-6 elementary school for 660 students using a series of medium and small spaces that flow together without any interrupting doors, but not big, impersonal open space. Instructional areas are grouped around a study center. Multipurpose, art, music, and kindergarten are at the other end of the building.





Potomac Heights Elementary School
Hagerstown, Maryland

Nongraded elementary school organized into lower, intermediate, and upper teams, with plan providing partial separation between teams and centrally located resources, project rooms, media center, and professional center for planning of faculty teams. Open planning in this school provides some separation of areas, with fixed elements such as utility cores, toilet rooms, and large group classrooms deliberately arranged to provide physical separation between areas.



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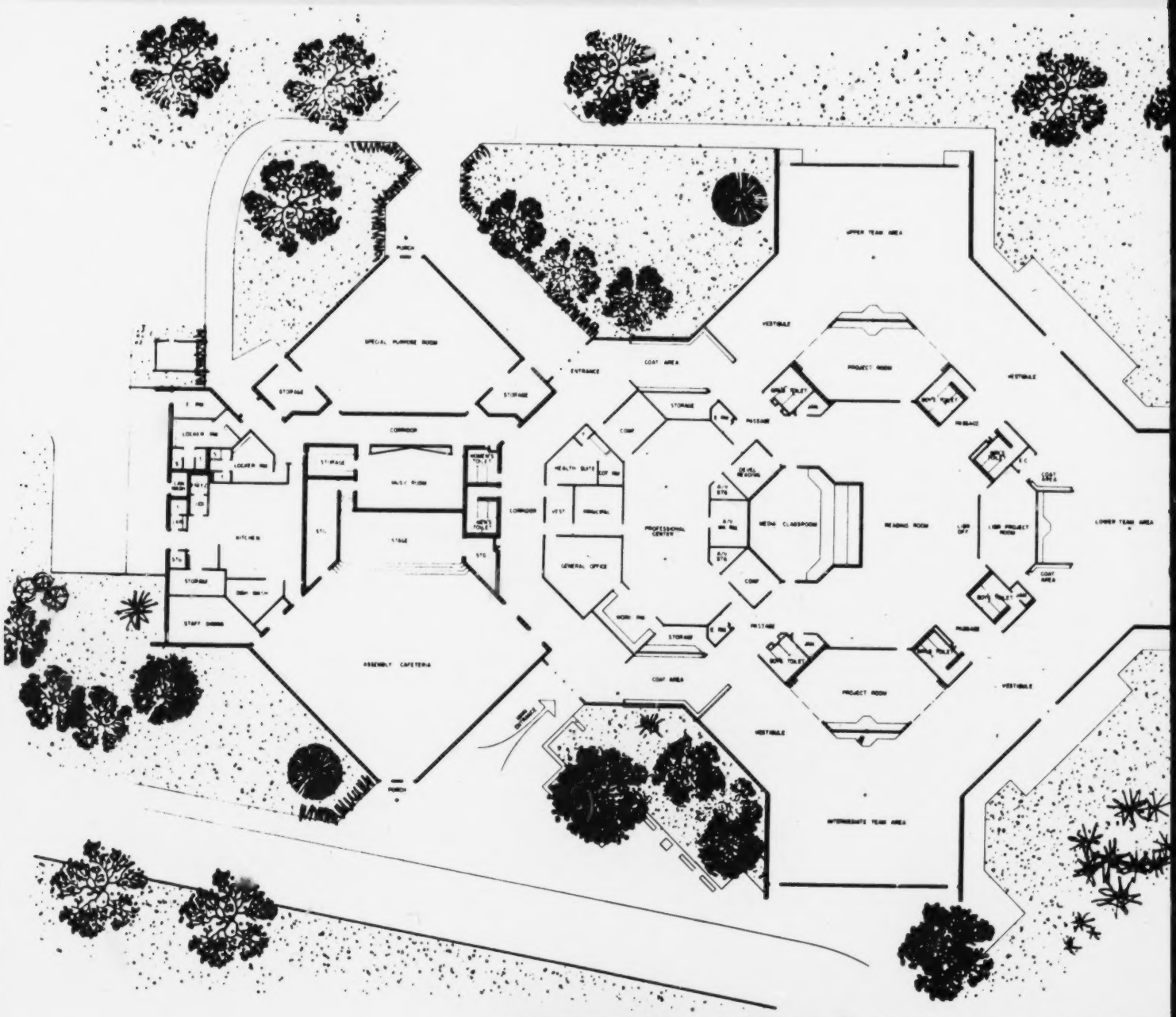
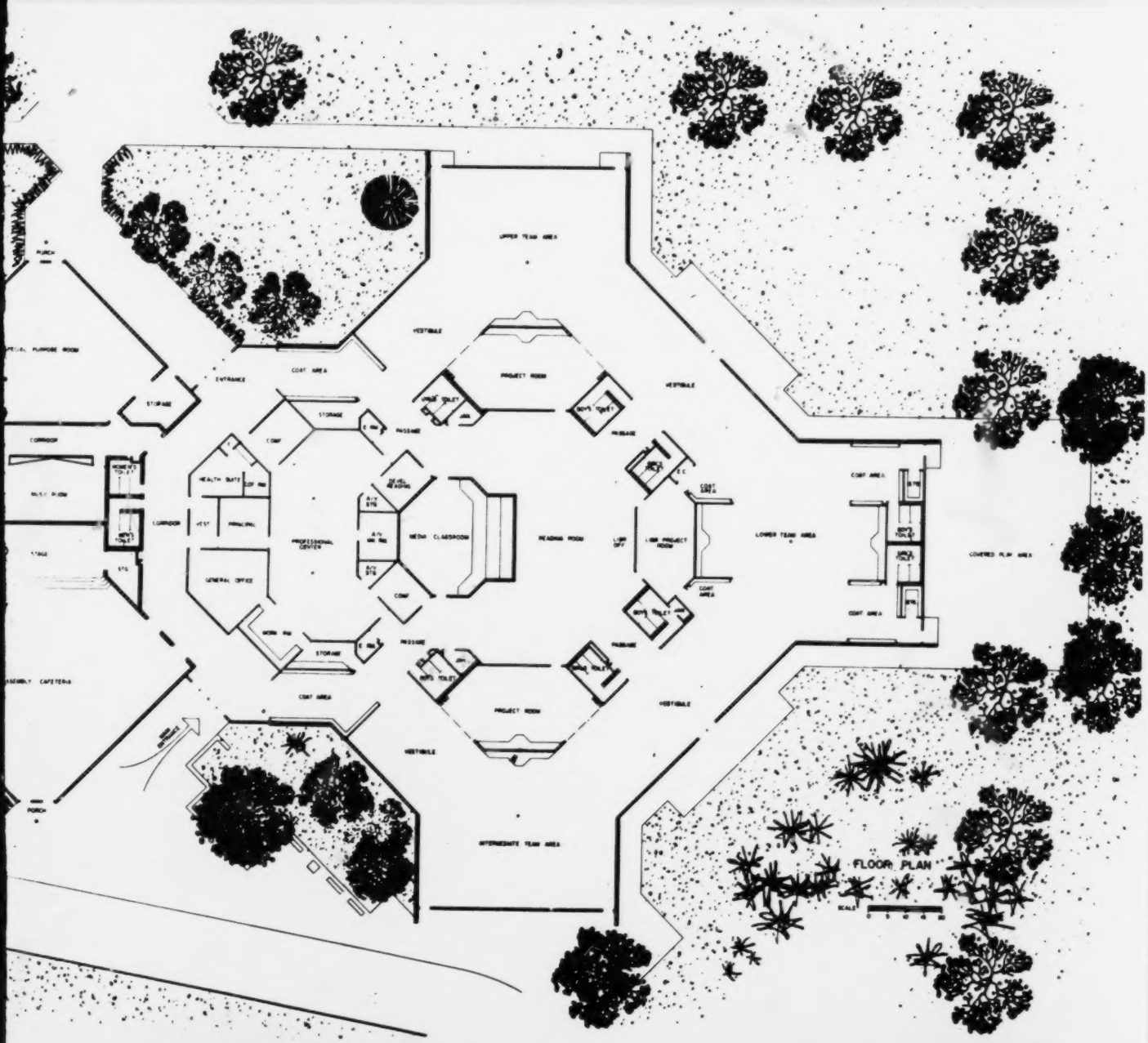
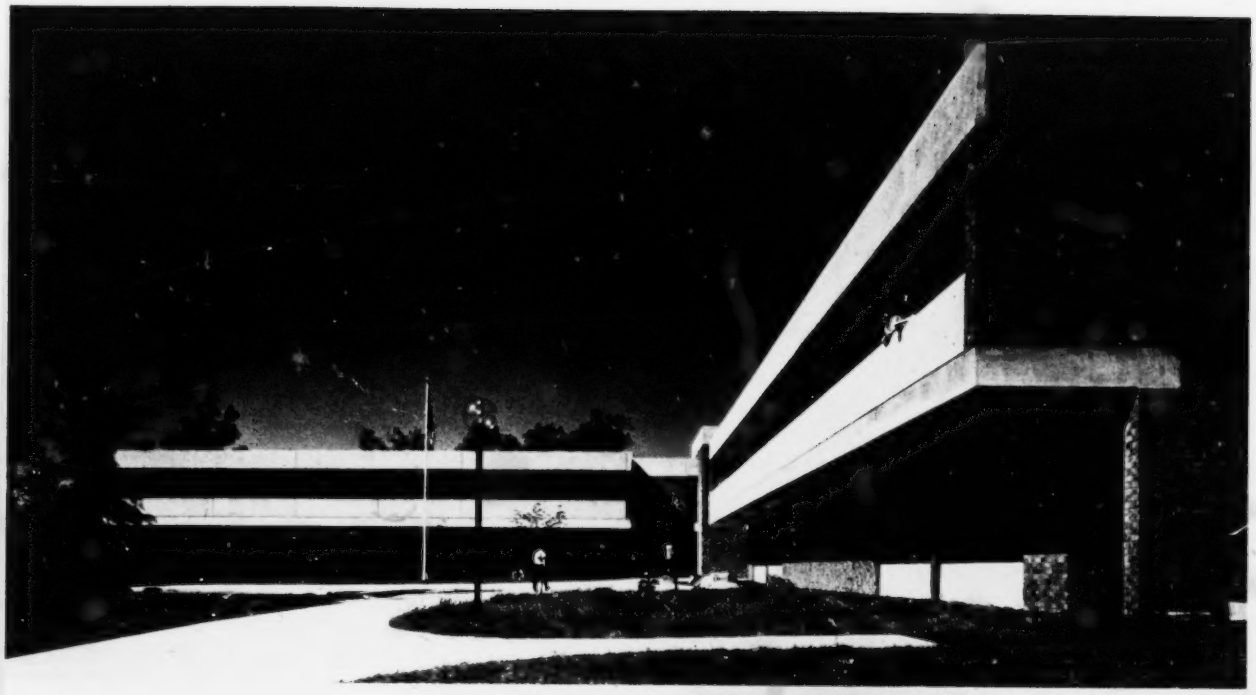


McLeod, Ferrara & Ensign, architects
William M. Brish, superintendent


UPPER TEAM AREA
VESTIBULE
ENTRANCE
COAT AREA
PROJECT ROOM
STORAGE
CORRIDOR
MEDIA CLASSROOM
READING ROOM
LOWER TEAM AREA
COVERED PLAY AREA
GENERAL OFFICE
PROFESSIONAL CENTER
INTERMEDIATE TEAM AREA
FLOOR PLAN



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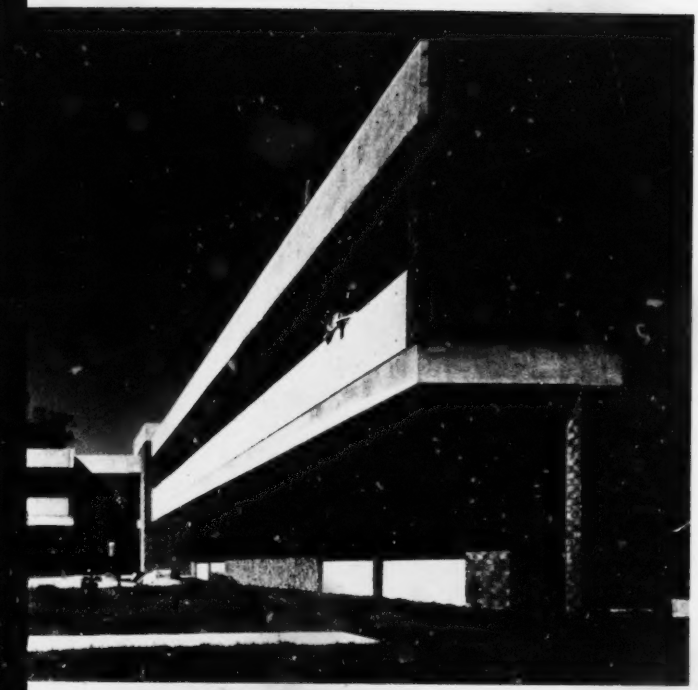
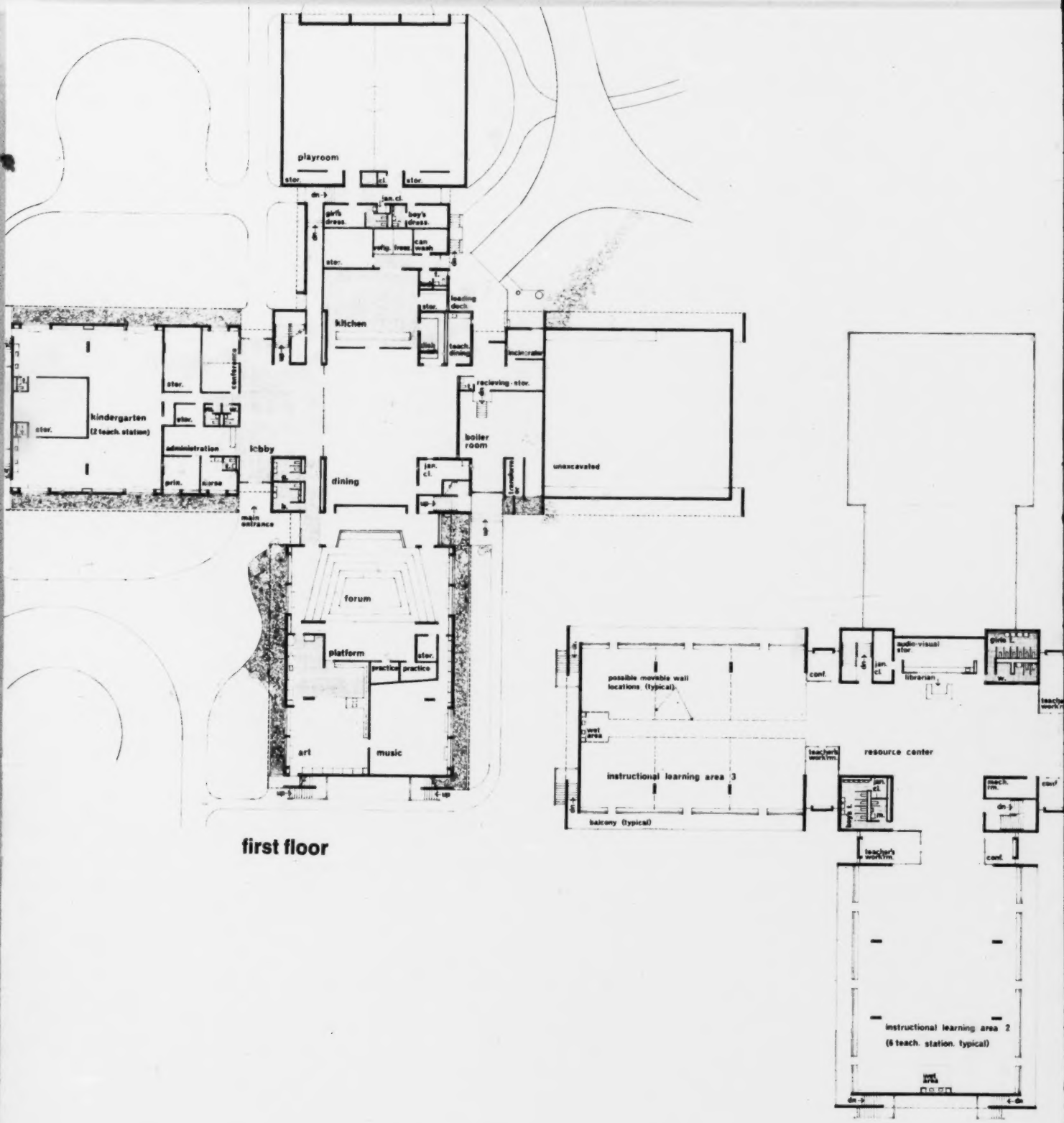


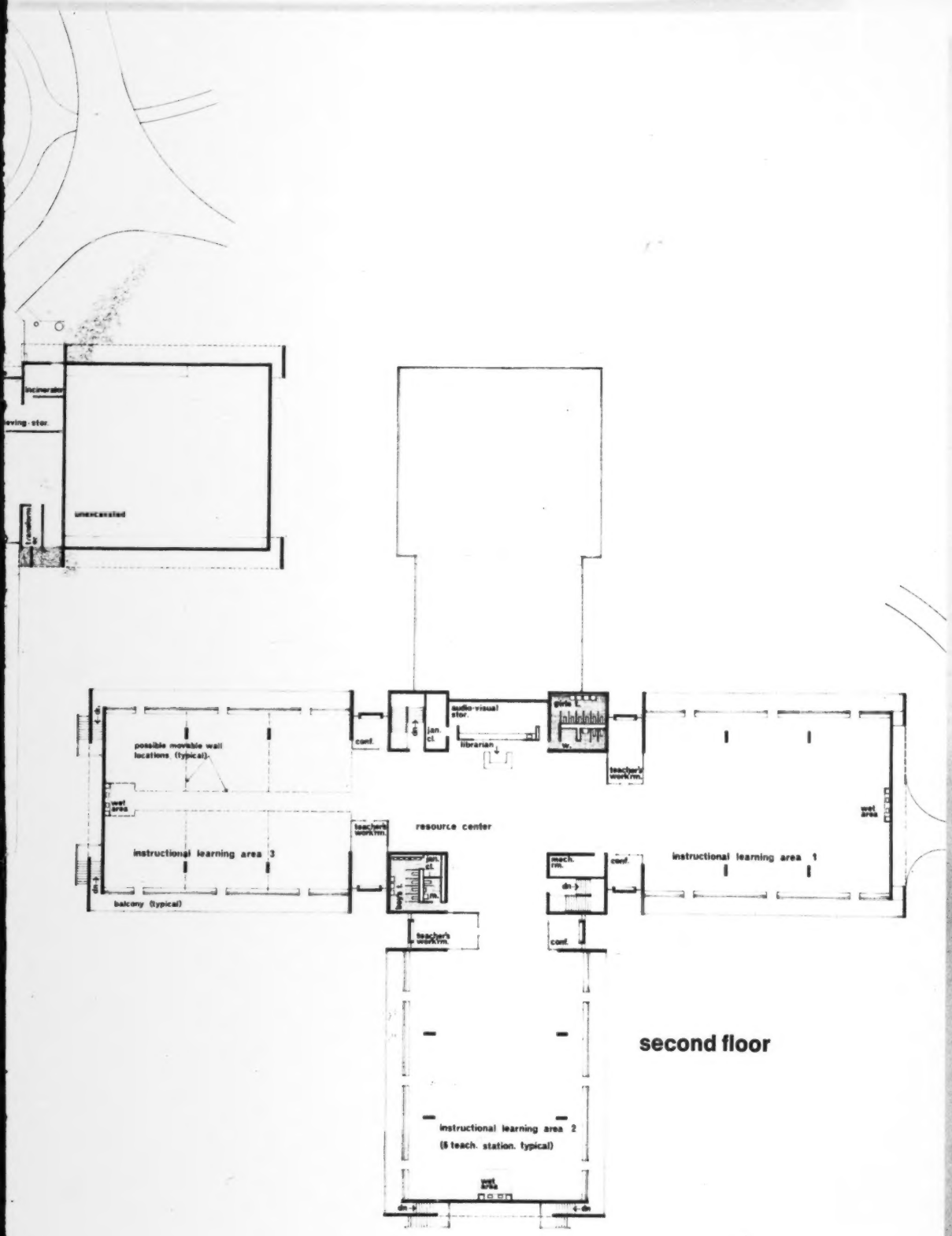
Elementary School
Concord, Massachusetts

In its first year of operation this elementary school's flexibility was tested when it was called upon to serve as a junior high school. The kindergarten unit, for example, now serves as a visual arts center. More specialized and self-contained activities are housed at the lower level, with the entire second floor left open to serve whatever current needs require. The only permanent walls at this level are for mechanical installations, toilets, and stairways.



first floor

The Architects Collaborative, architects
Ralph E. Sloan, Superintendent



second floor

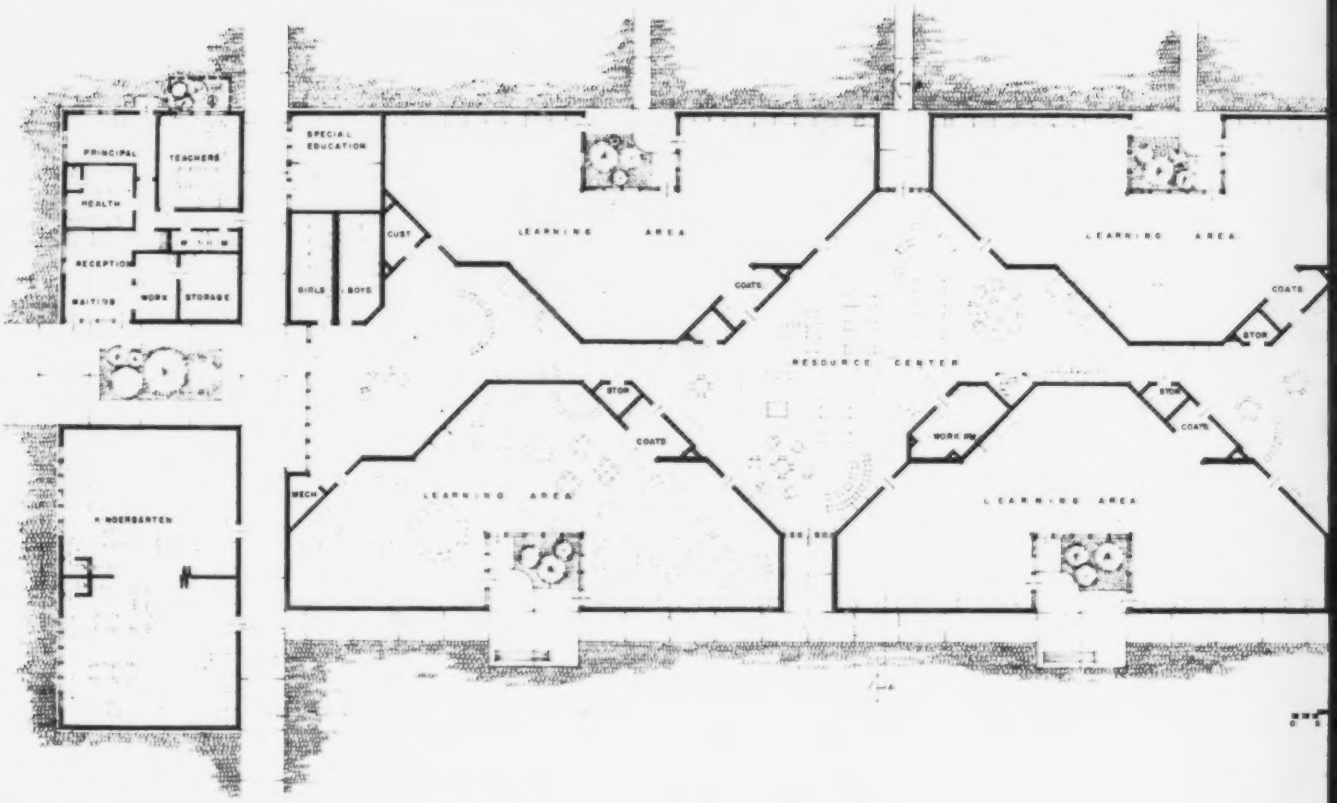
Architects Collaborative, architects
h E. Sloan, Superintendent

Daffodil Valley Elementary School
Sumner, Washington

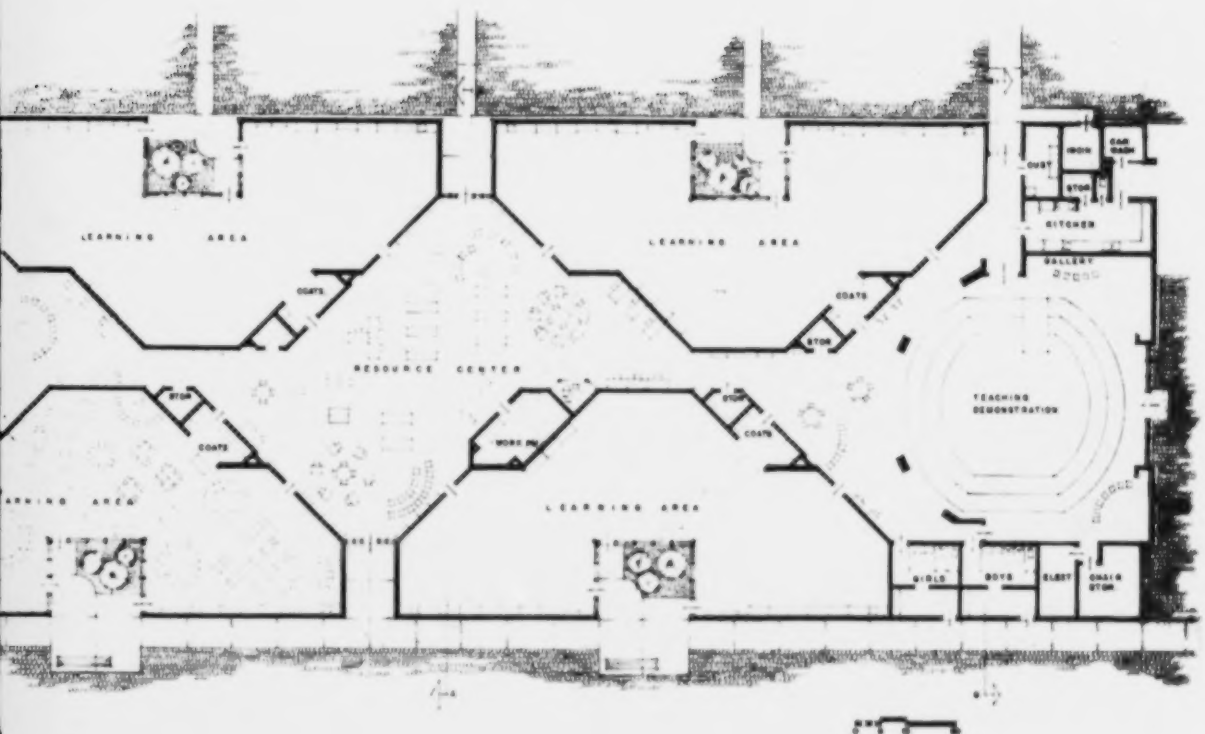
Compact plan for a K-6 elementary school with a resource center woven through the middle of four large learning areas. Small courts add further interest to these otherwise wide open learning spaces. Teaching demonstration area at one end provides opportunities for a variety of pupil activities.

Compact plan for a K-6 elementary school with a resource center woven through the middle of four large learning areas. Small courts add further interest to these otherwise wide open learning spaces. Teaching demonstration area at one end provides opportunities for a variety of pupil activities.

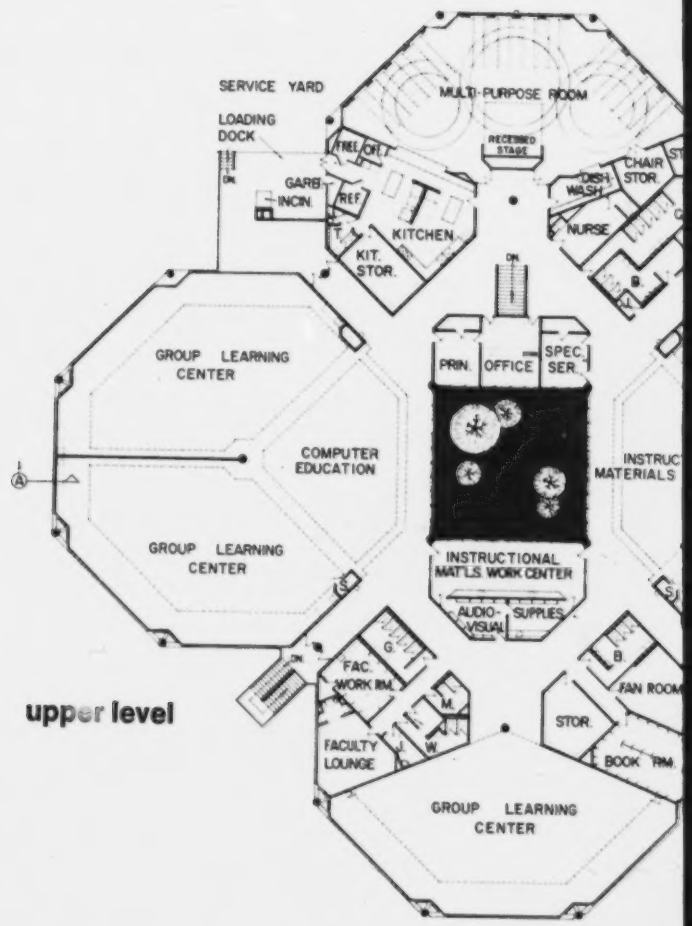
Donald F. Burr & Asso
Jesse M. Hartman, su



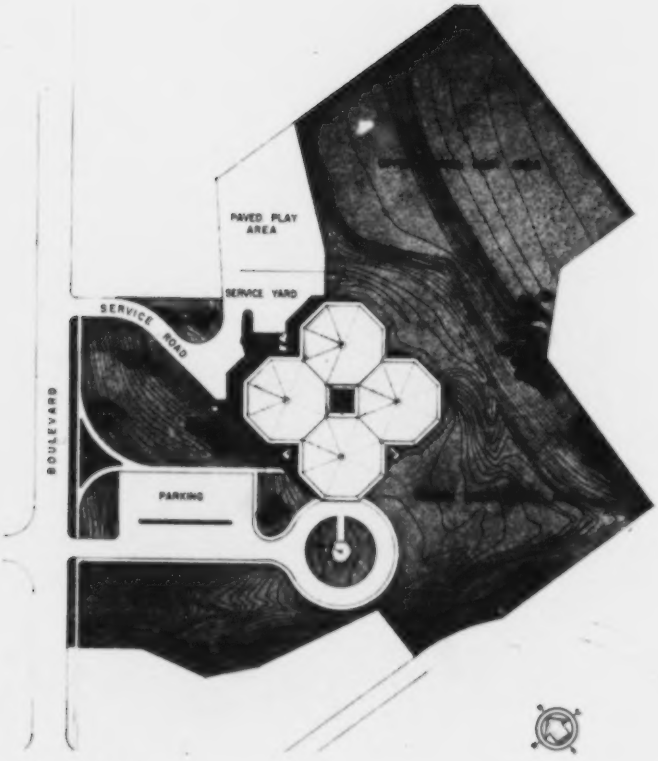
Donald F. Burr & Associates, architects
Jesse M. Hartman, superintendent

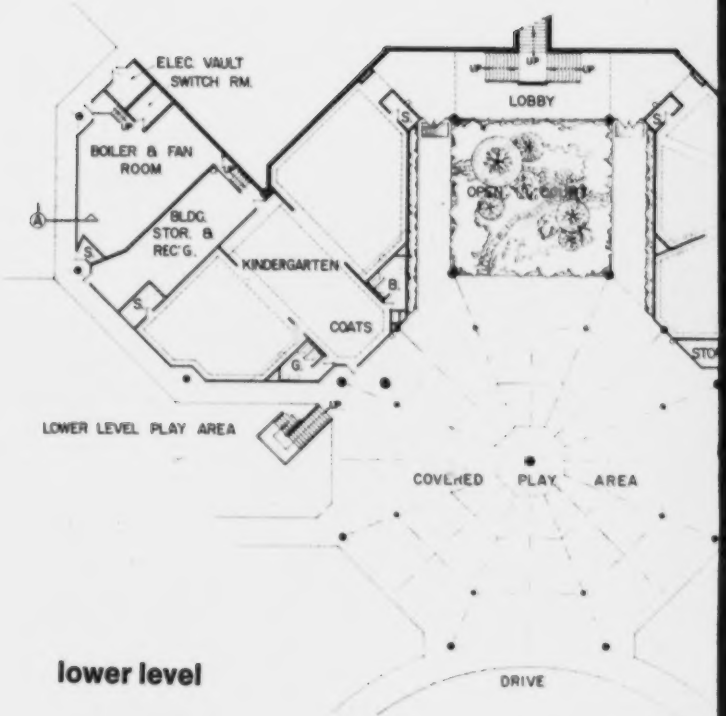


Leo J. Muir Elementary School
Bountiful, Utah



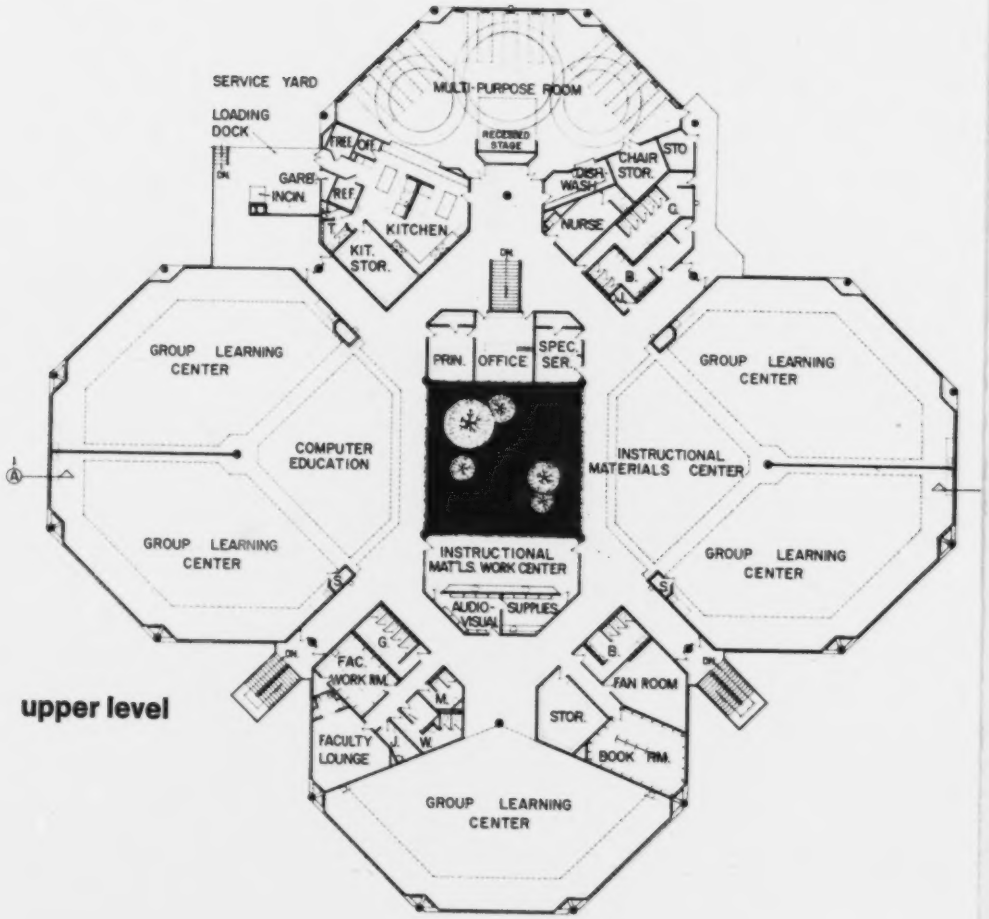
upper level



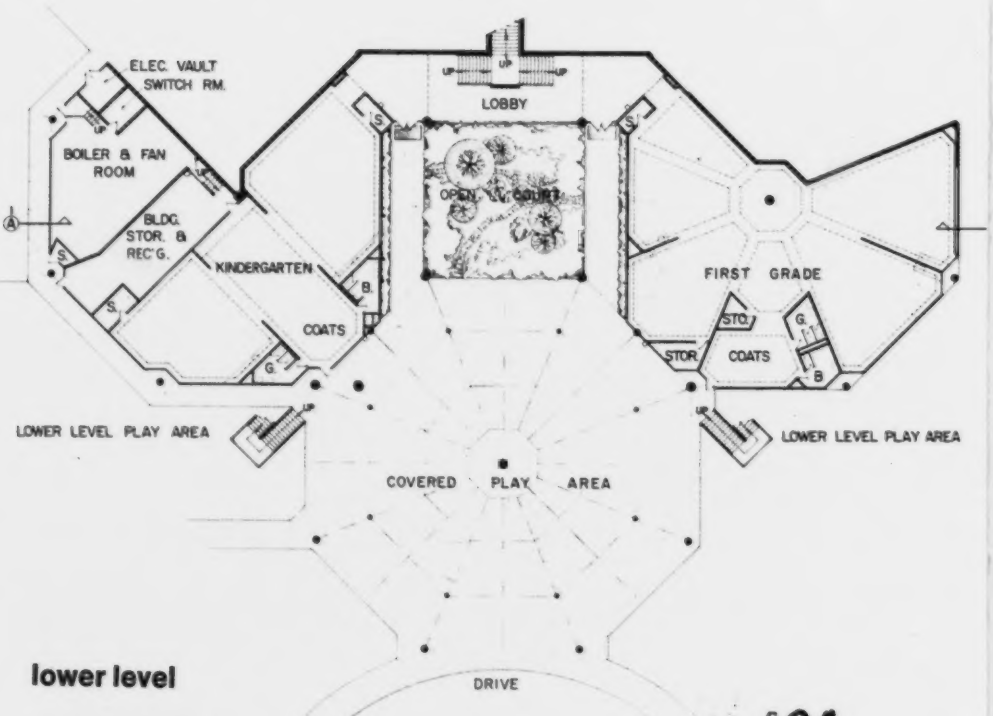


lower level

123



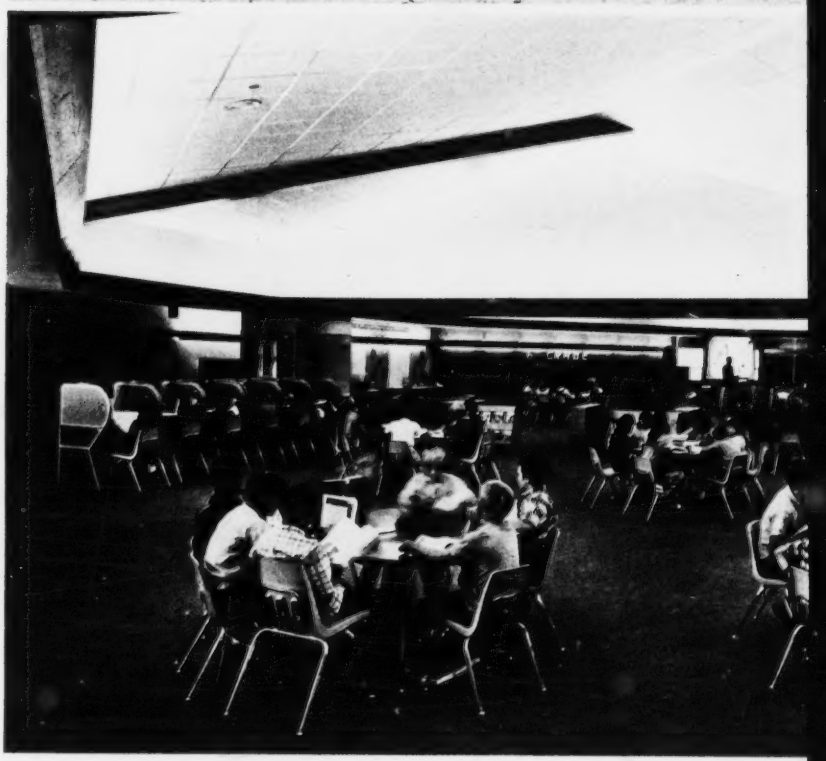
upper level

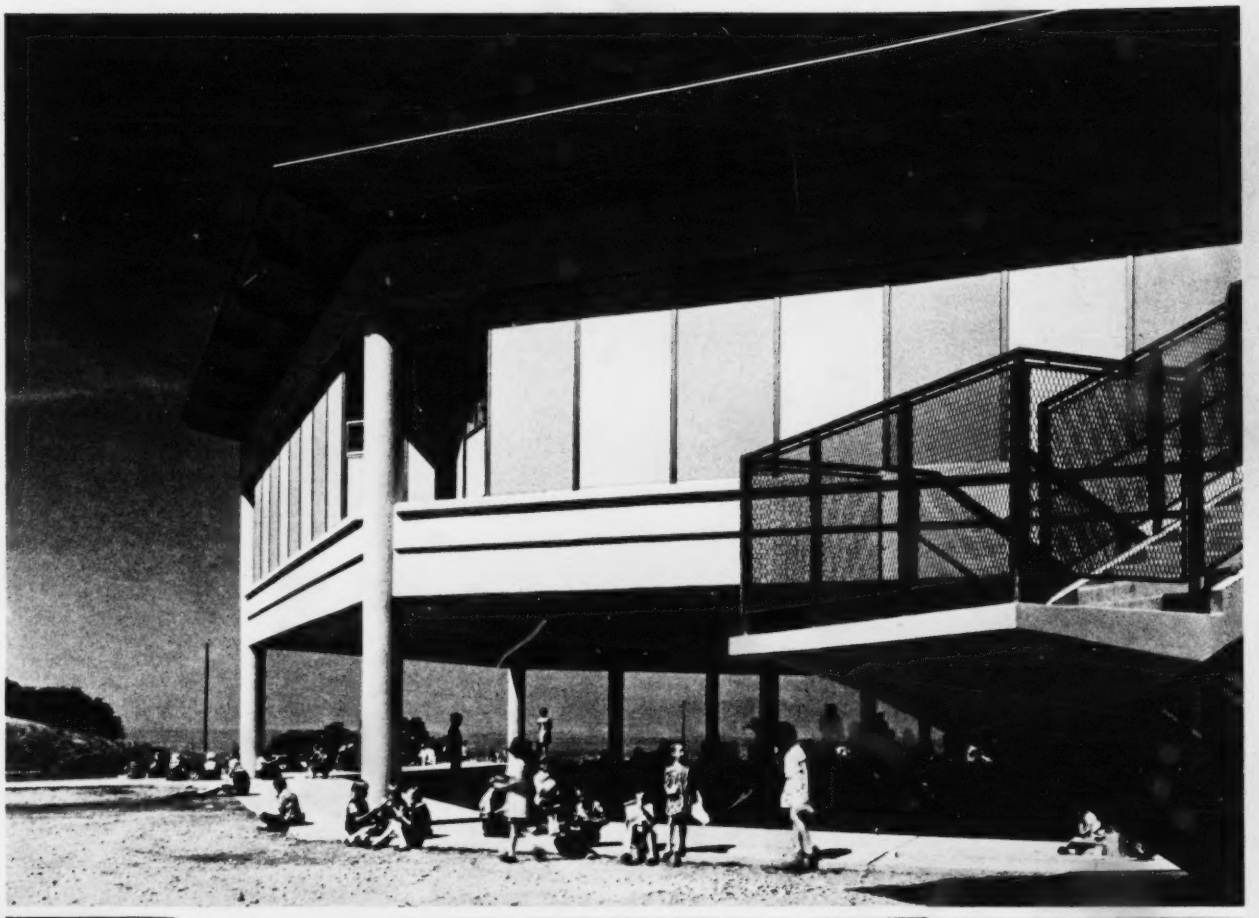


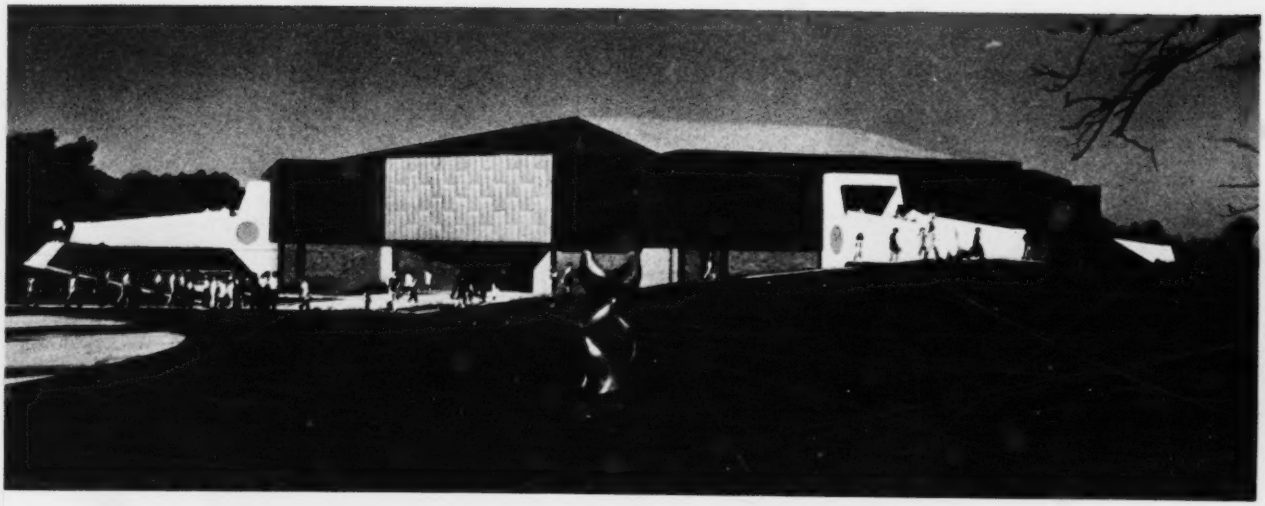
lower level

Harold K. Beecher & Associates, architects
Bernell Wrigley, superintendent

Two-level, octagonal clusters grouped together on a hillside and providing covered play area at the lower level. Learning centers for grades two through six are grouped around central facilities for administration, instructional materials, and computer education. Kindergarten and first grade share play area at lower level.

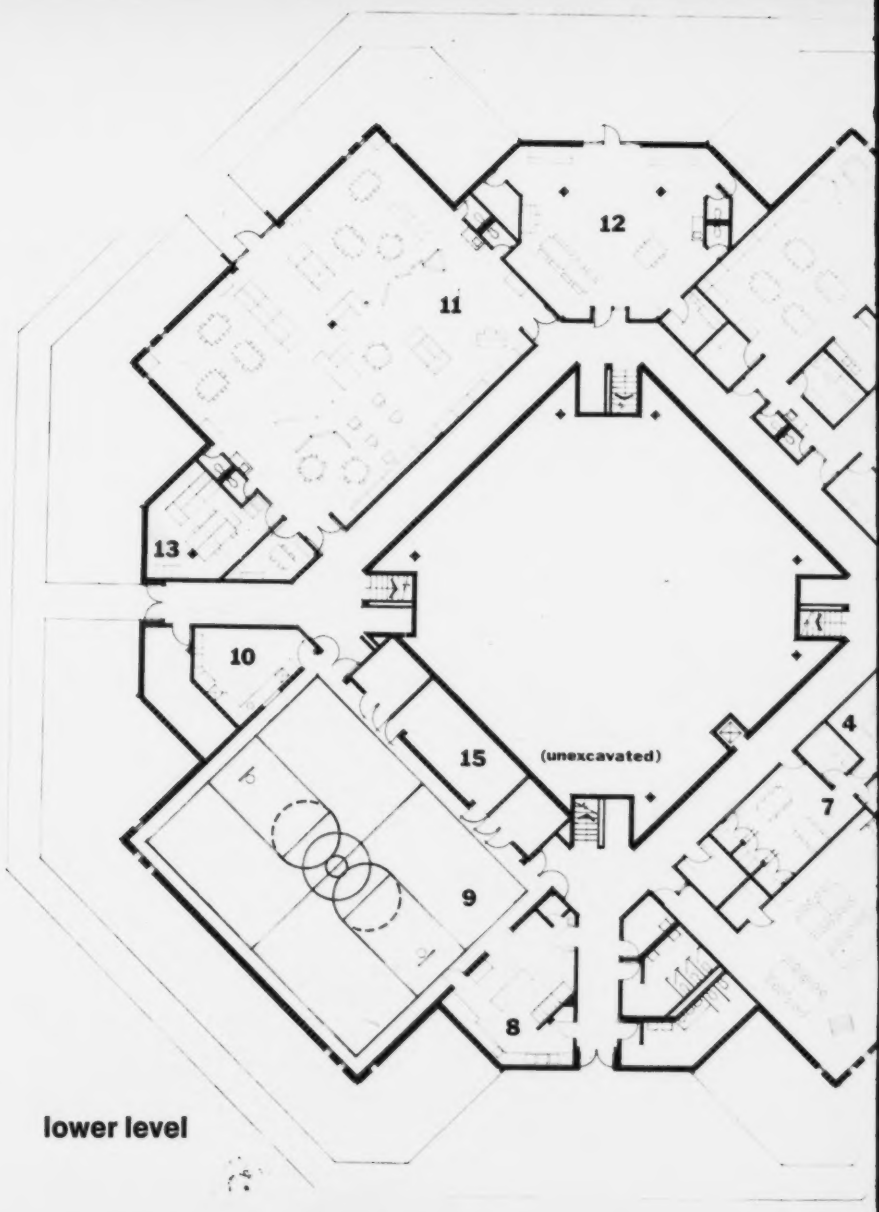






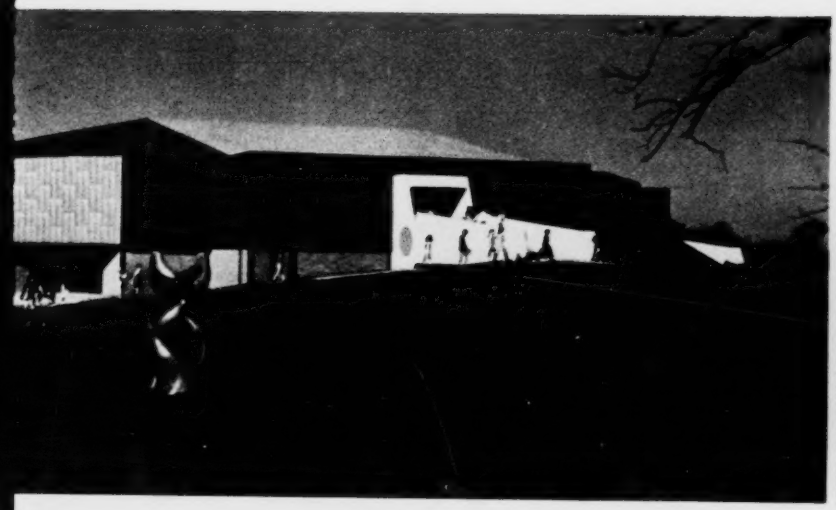
J. L. Buford Elementary School
Mt. Vernon, Illinois

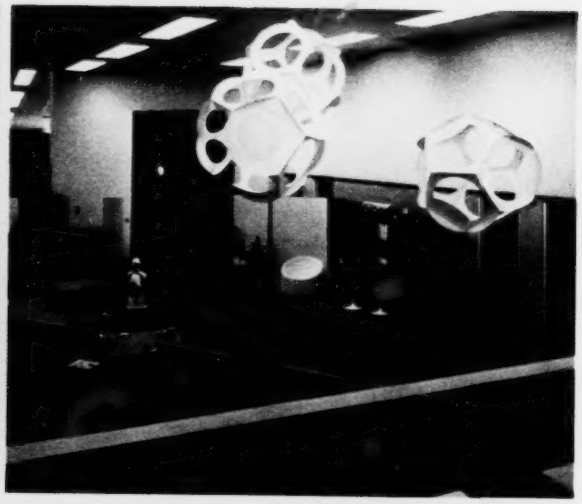
Split-level design takes advantage of a narrow, sloping site, and includes a centrally located resource or individual progress center, half way between first and second level classroom units. Center provides materials, resources, and professional staff to assist pupils in individual pursuits.

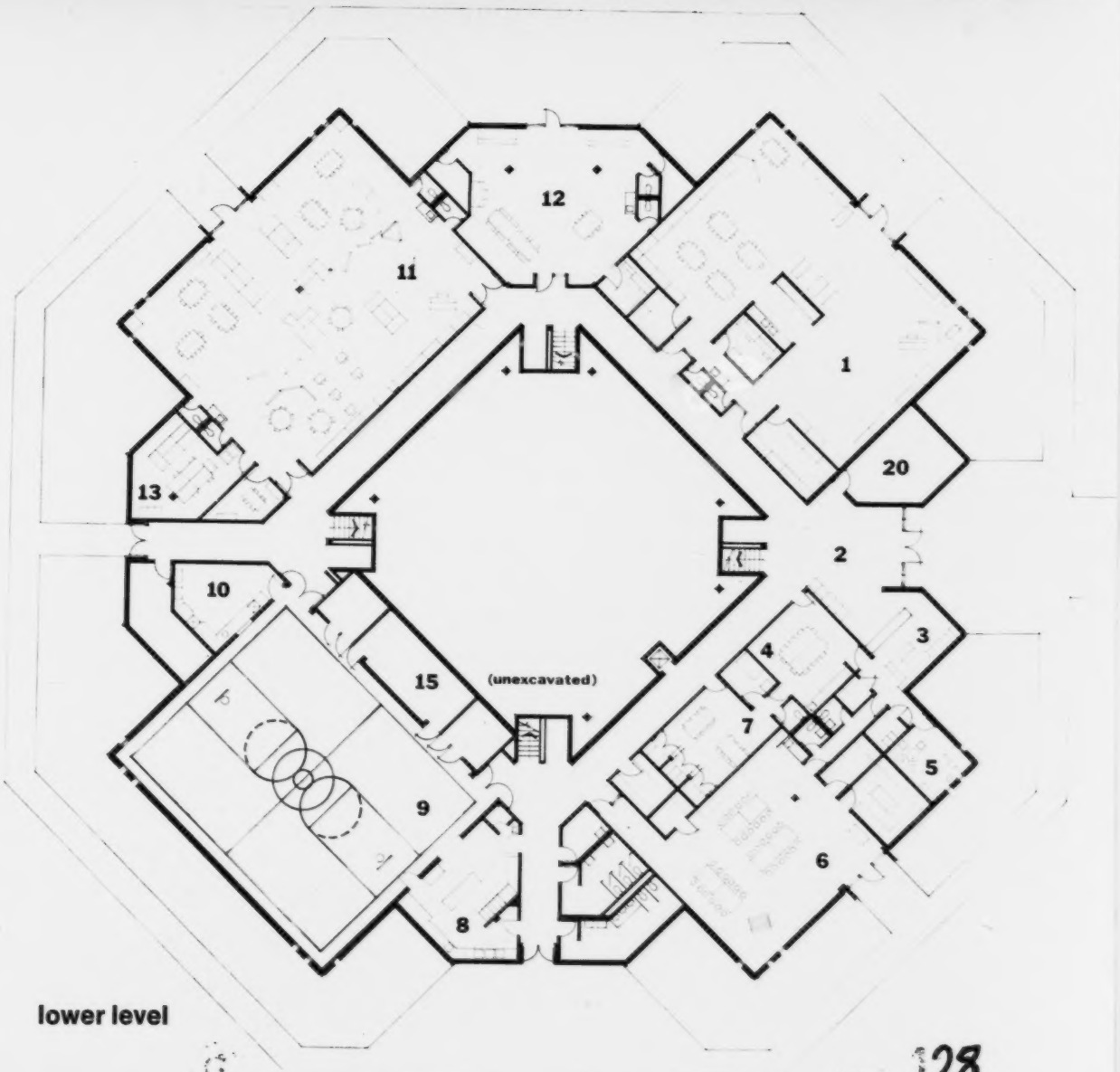


lower level

127







lower level

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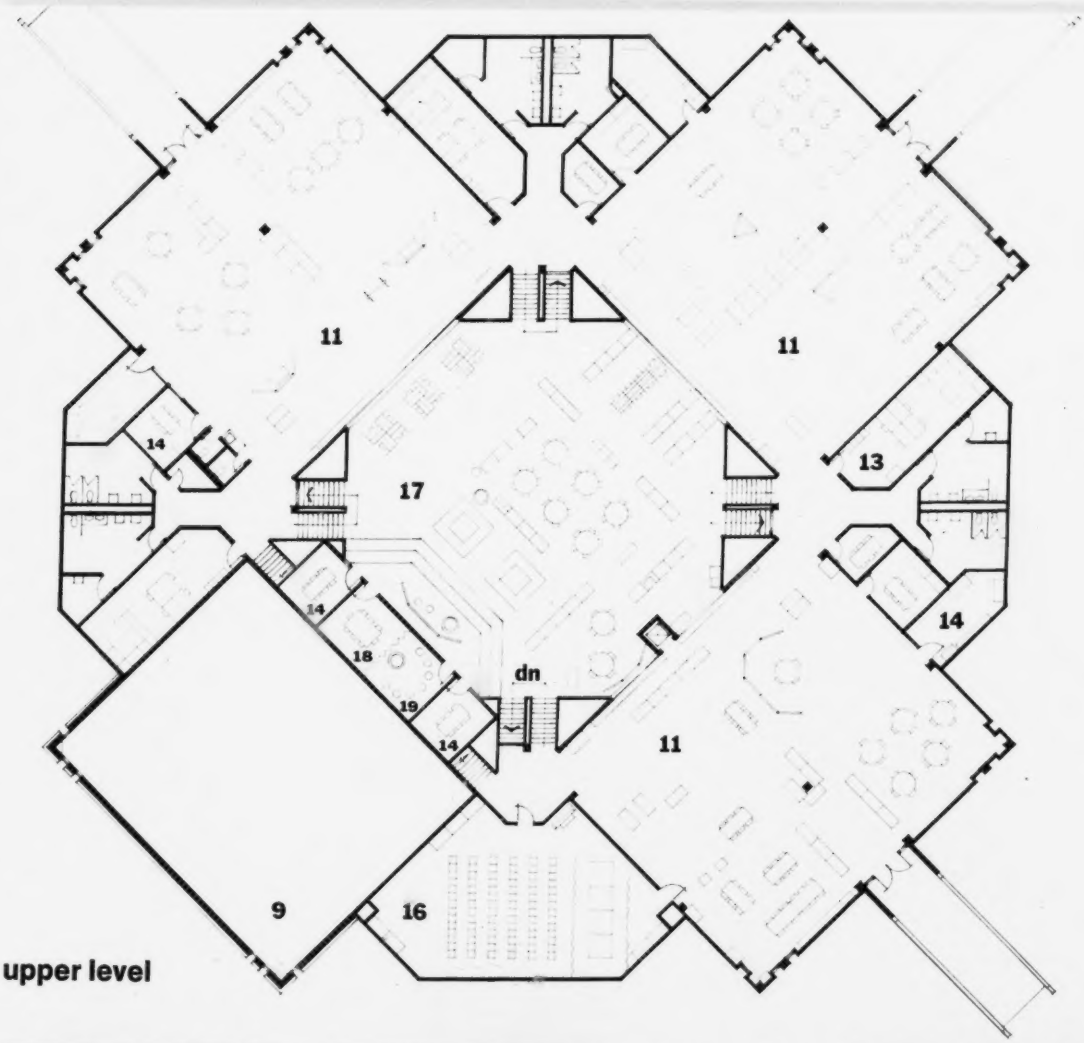
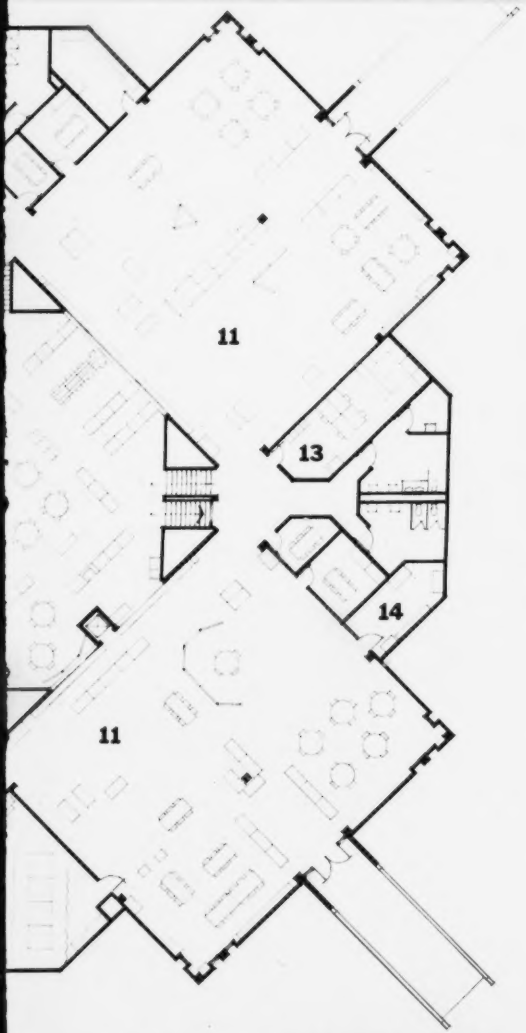


upper level

Fields, Goldman
Arthur Edmison,

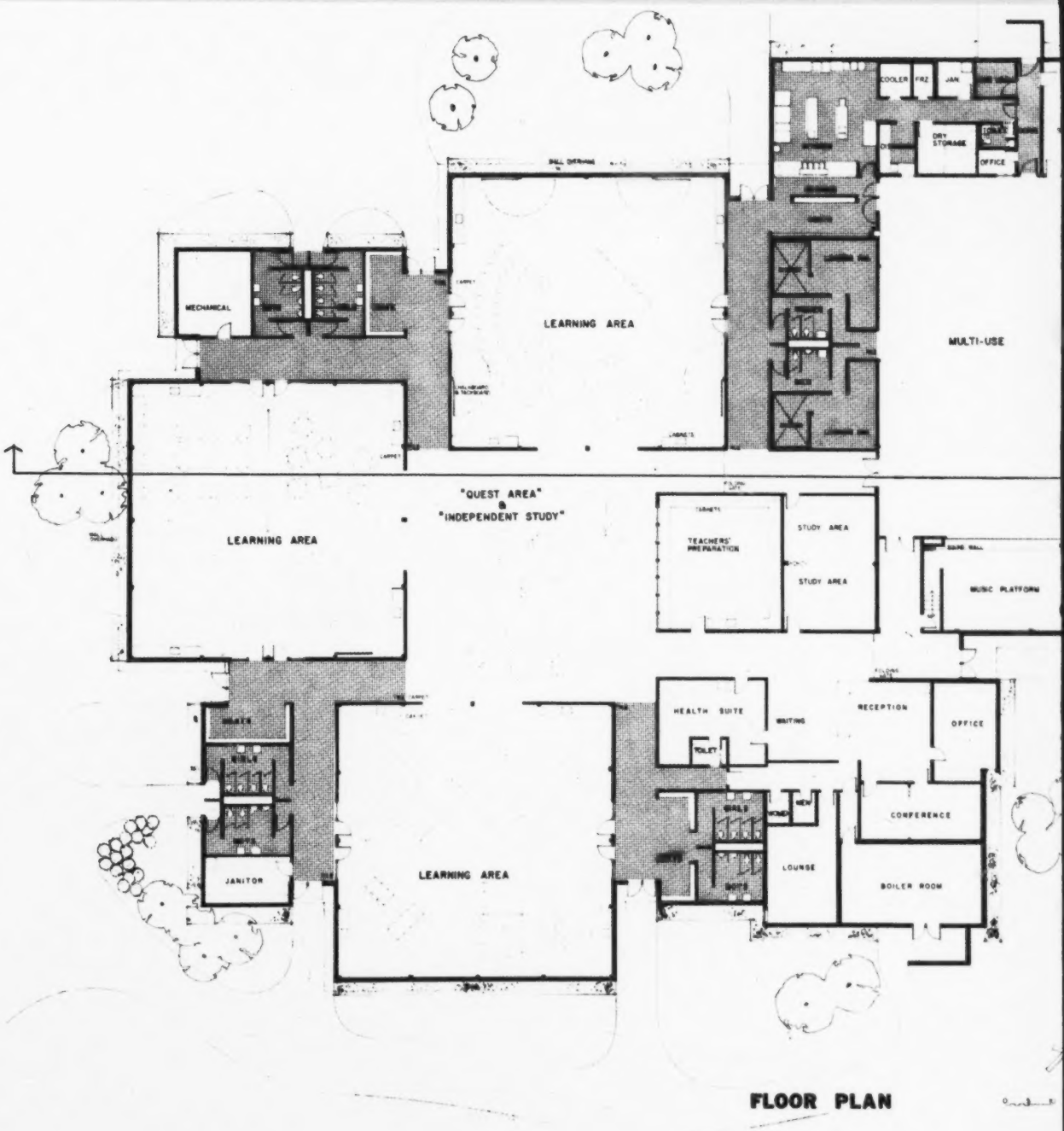


Fields, Goldman & Magee, architects
Arthur Edmison, superintendent

Westside Elementary School
Powell, Wyoming

Elementary school on a park site purchased jointly by the school district and the city, and providing community-wide recreation. Clusters of learning areas are grouped around a "quest" center with specialized and more closed spaces on the periphery.

131



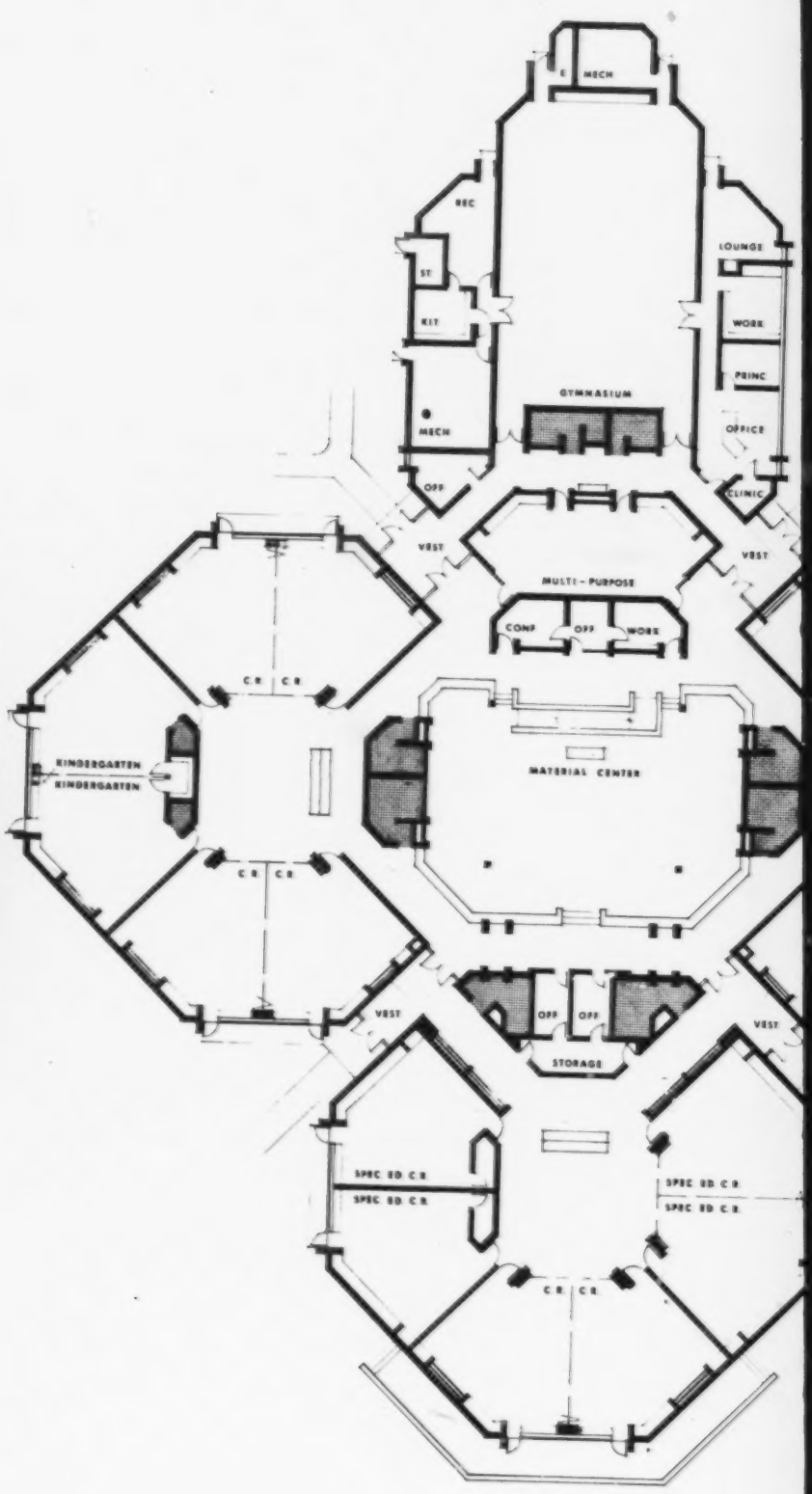
FLOOR PLAN

CTA, architects
J. Neal Large, superintendent

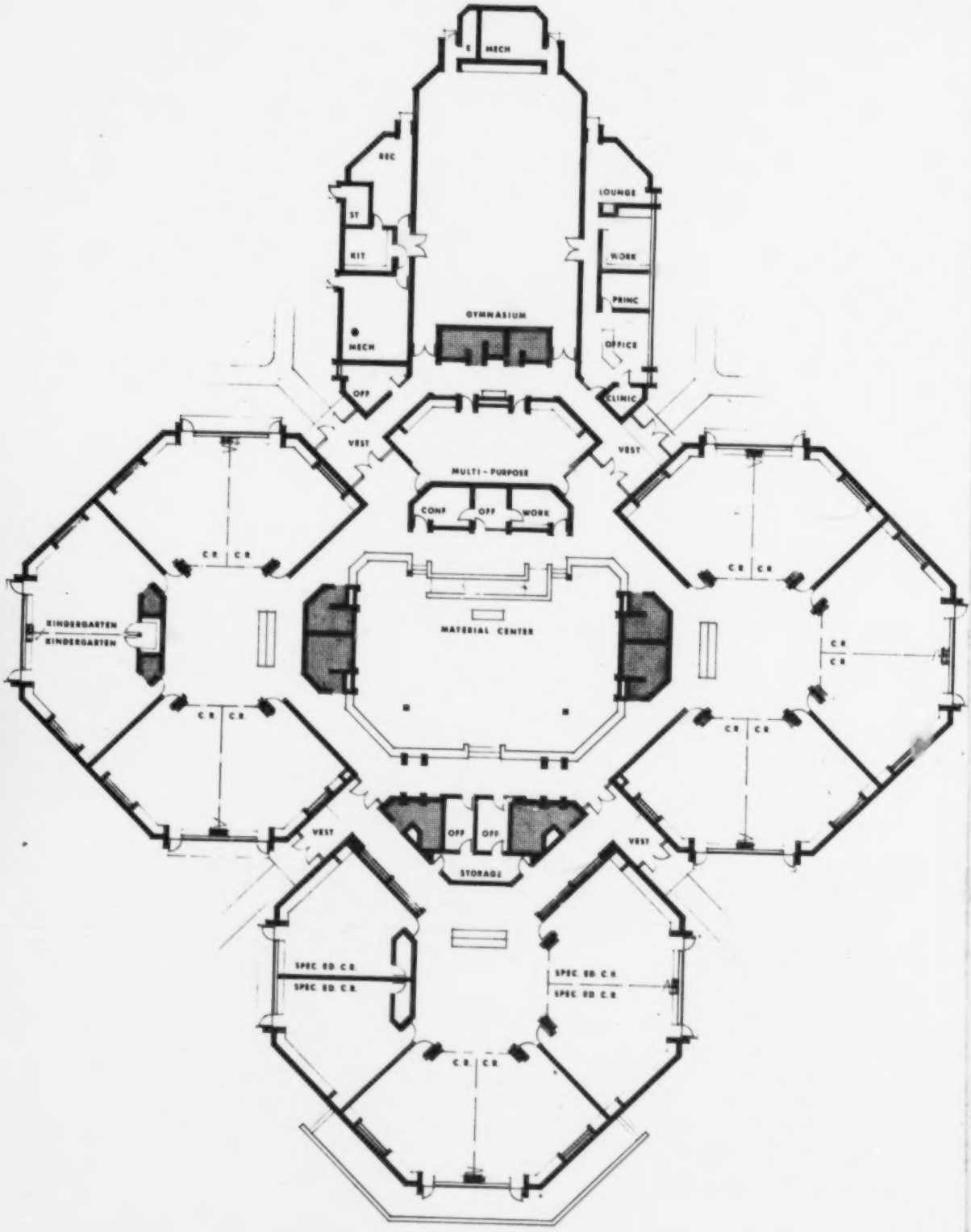
FLOOR PLAN

CTA, architects
J. Neal Large, superintendent

Frank E. Doherty Elementary School
Orchard Lake, Michigan



A neighborhood K-6 elementary school nestled among the trees, and using simple building materials to compliment the natural beauty of the site. Instructional areas, only partially open between individual units, are arranged in clusters of six around a central materials center. Centrum areas within clusters provide added flexibility.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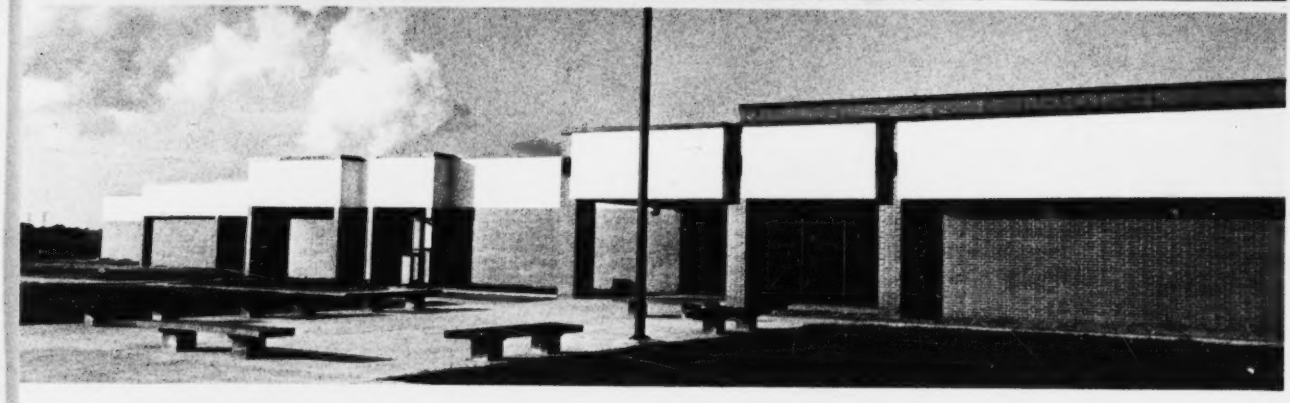
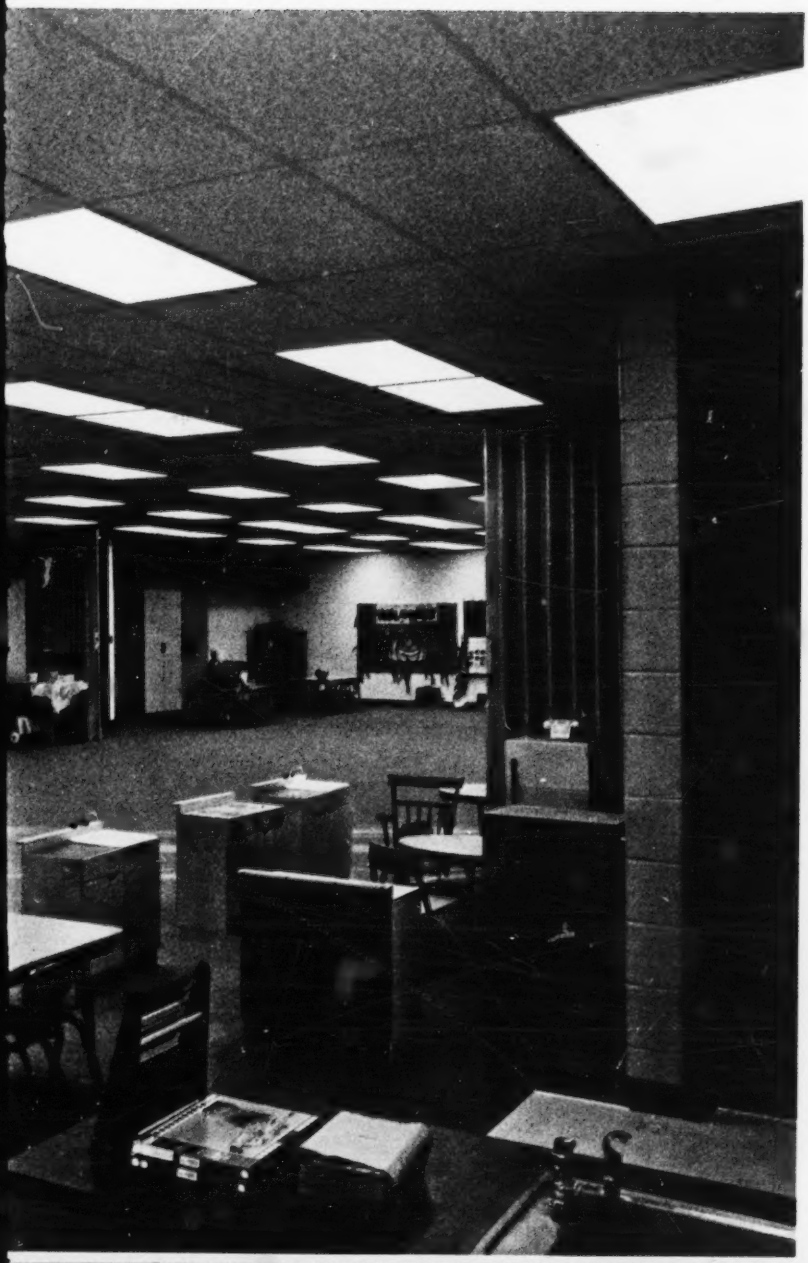
Tarapata, MacMahon, F
Associates, architects
Anthony P. Witham, sup

137

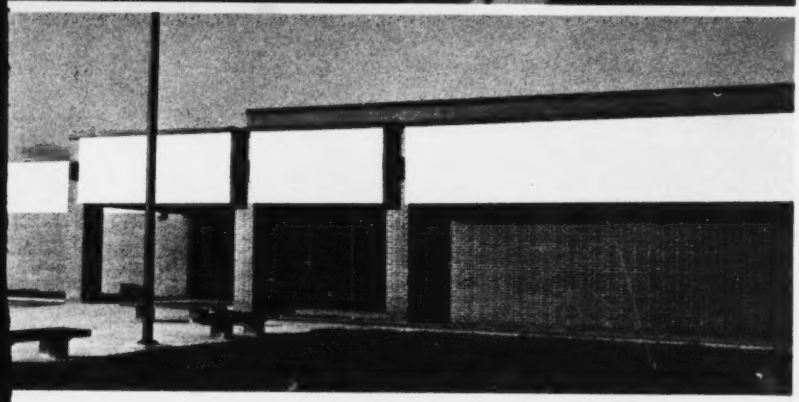
Tarapata, MacMahon, Paulsen
Associates, architects
Anthony P. Witham, superintendent



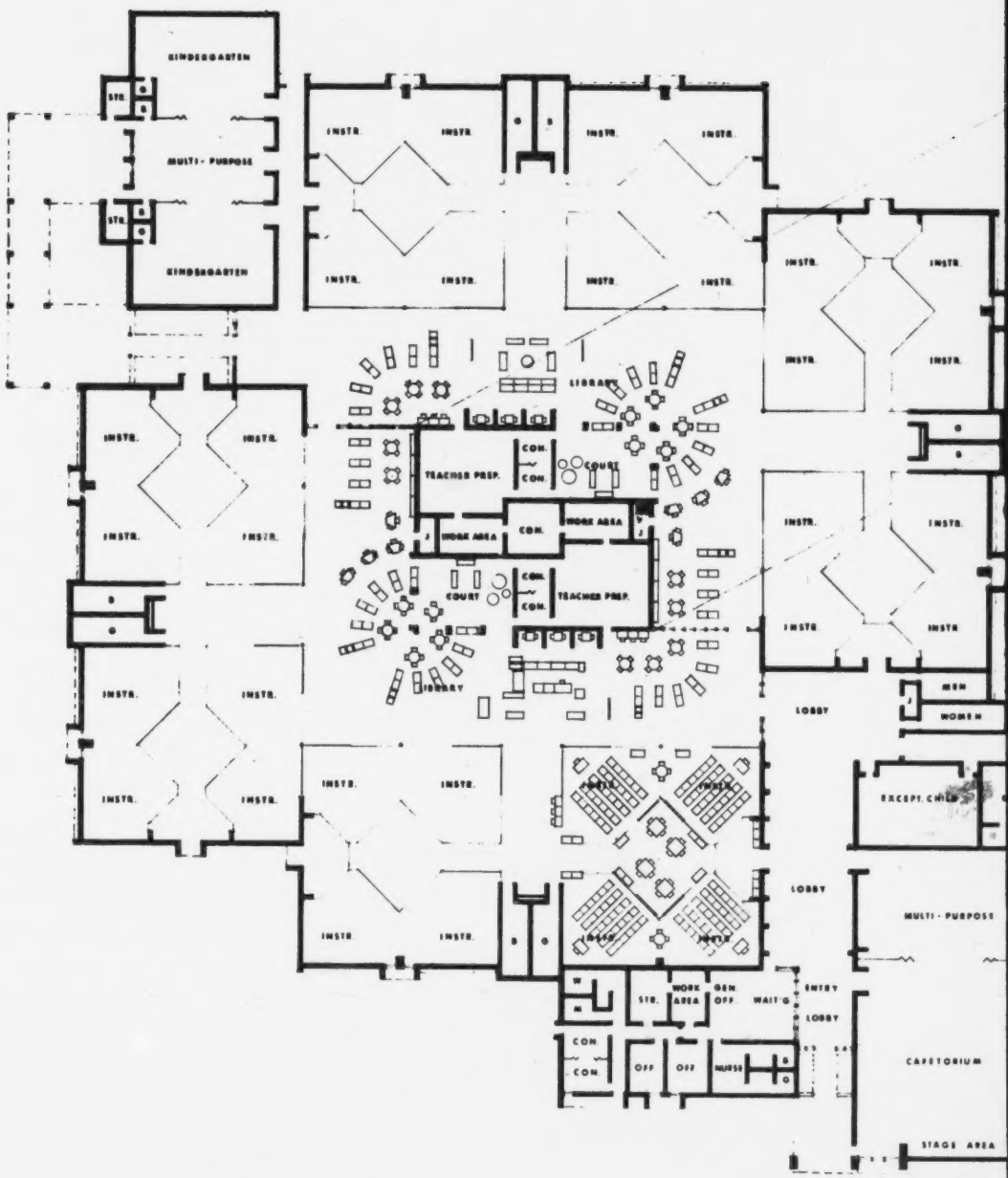


Dwight D. Eisenhower Elementary School
Clearwater, Florida

Compact, relatively large elementary school serving 1100 pupils. Space at the center of the school is devoted to an open library with separate teacher preparation, work areas, and conference rooms at the core. Instructional units or pods are grouped around this center with shared toilet facilities between pairs of pods. Built-in cabinets and sinks are confined to outside walls.



Prindle & Patrick, architects
Nicholas G. Mangin, superintendent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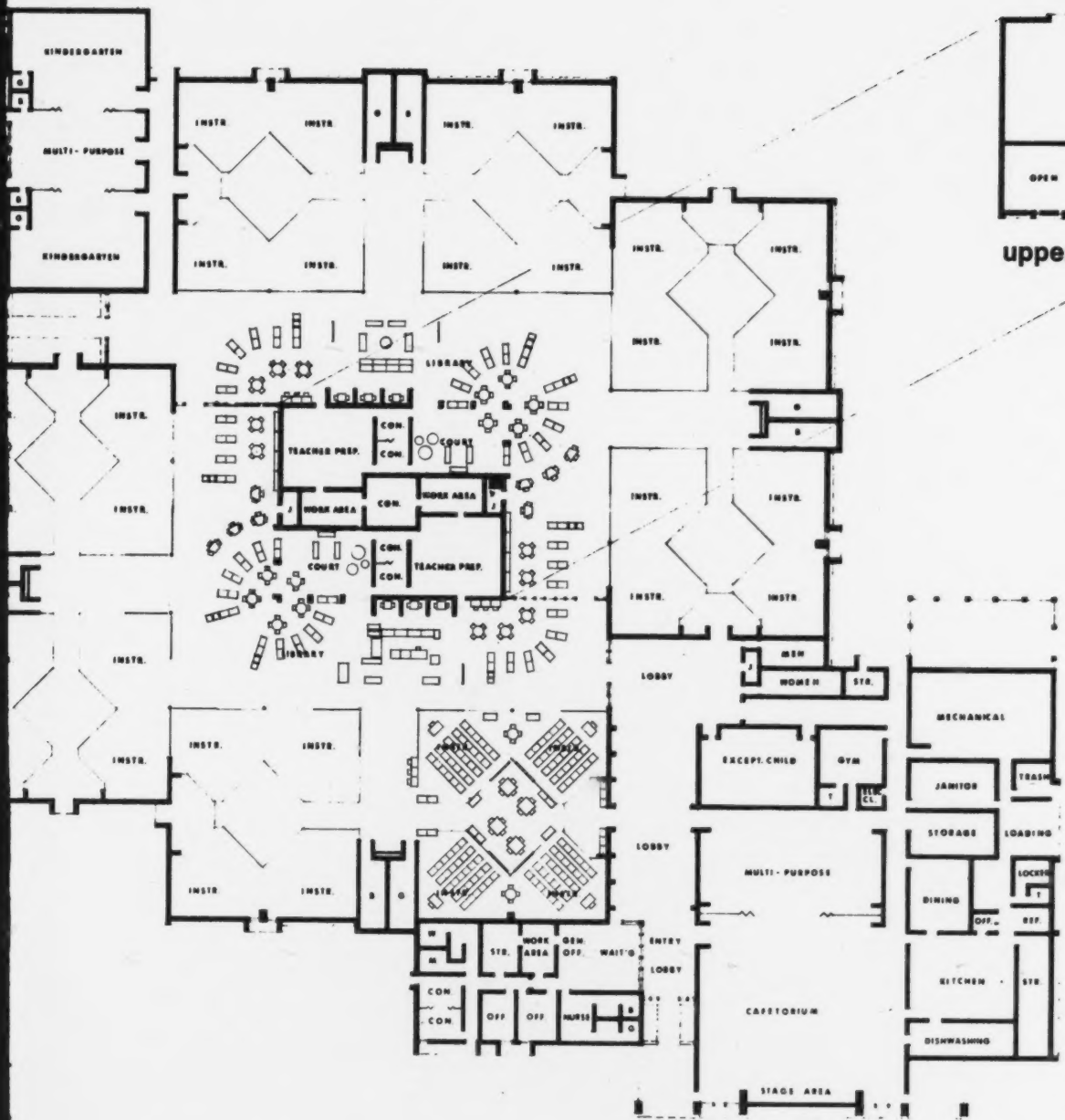
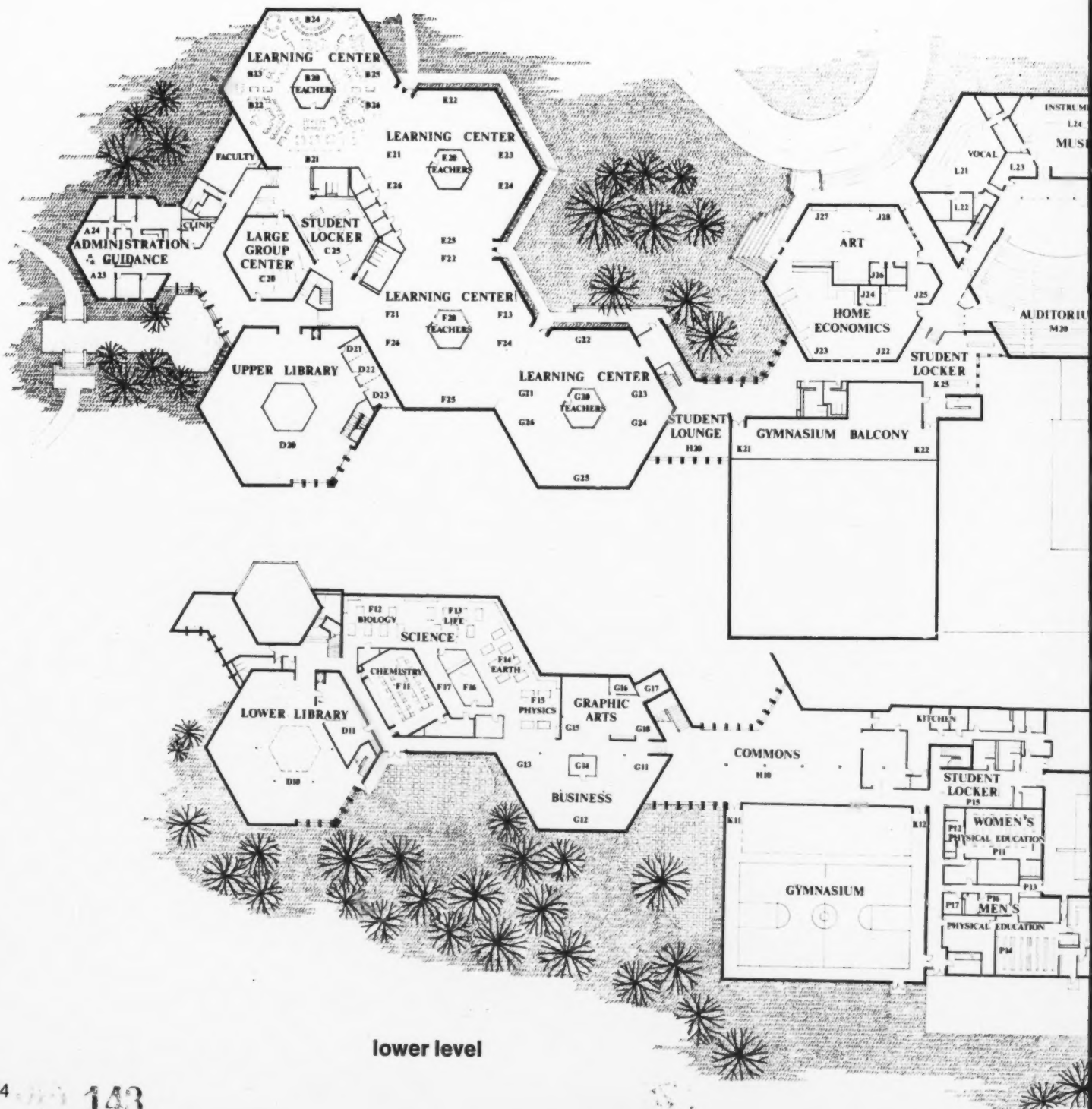


upper level

142

High School
Mariemont, Ohio

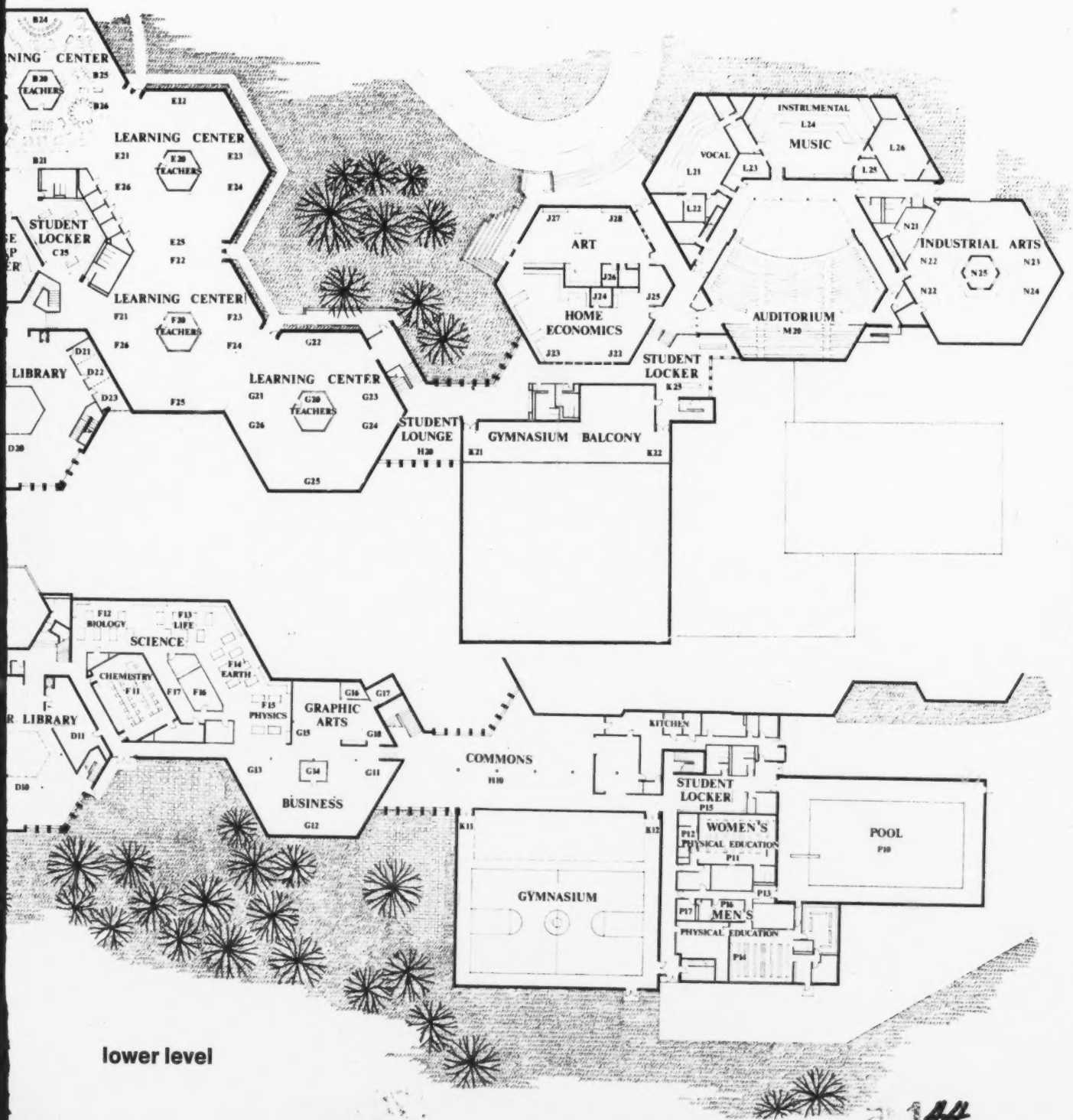
Grouping of hexagonal units in a two-story plan to serve 800 students in grades 9-12. Building follows contour of the hill and both levels exit at grade. Upper level includes open space learning centers and administration grouped around large group center and student l library serves this ar lower level. Special a grouped together at end of the building.



lower level

143

Grouping of hexagonal units in a two-story plan to serve 800 students in grades 9-12. Building follows contour of the hill and both levels exit at grade. Upper level includes open space learning centers and administration grouped around large group center and student locker area. Two-level library serves this area and science at lower level. Special and community use areas grouped together at two levels at the other end of the building.

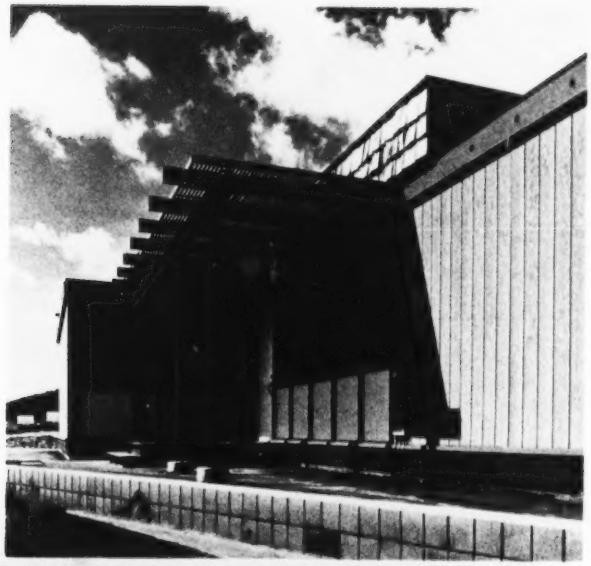


lower level

Baxter, Hodell, Donne
architects
Robert W. Crabbs, sup

Baxter, Hodell, Donnelly & Preston,
architects
Robert W. Crabbs, superintendent

La Patera Elementary School
Goleta, California



Arendt, Moshe
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Relocatable "q
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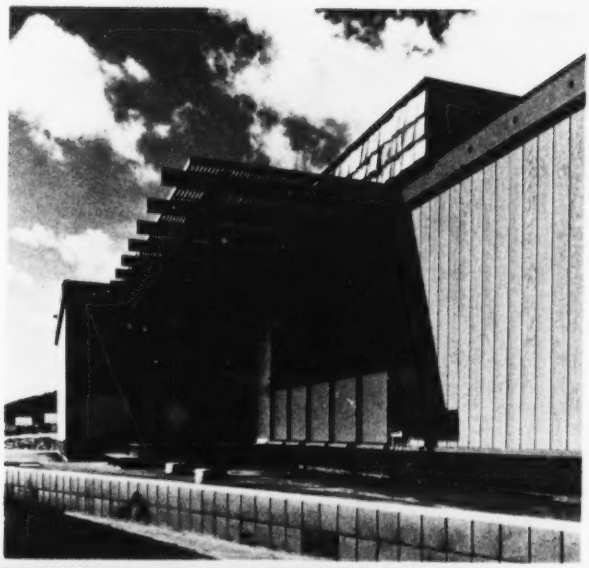
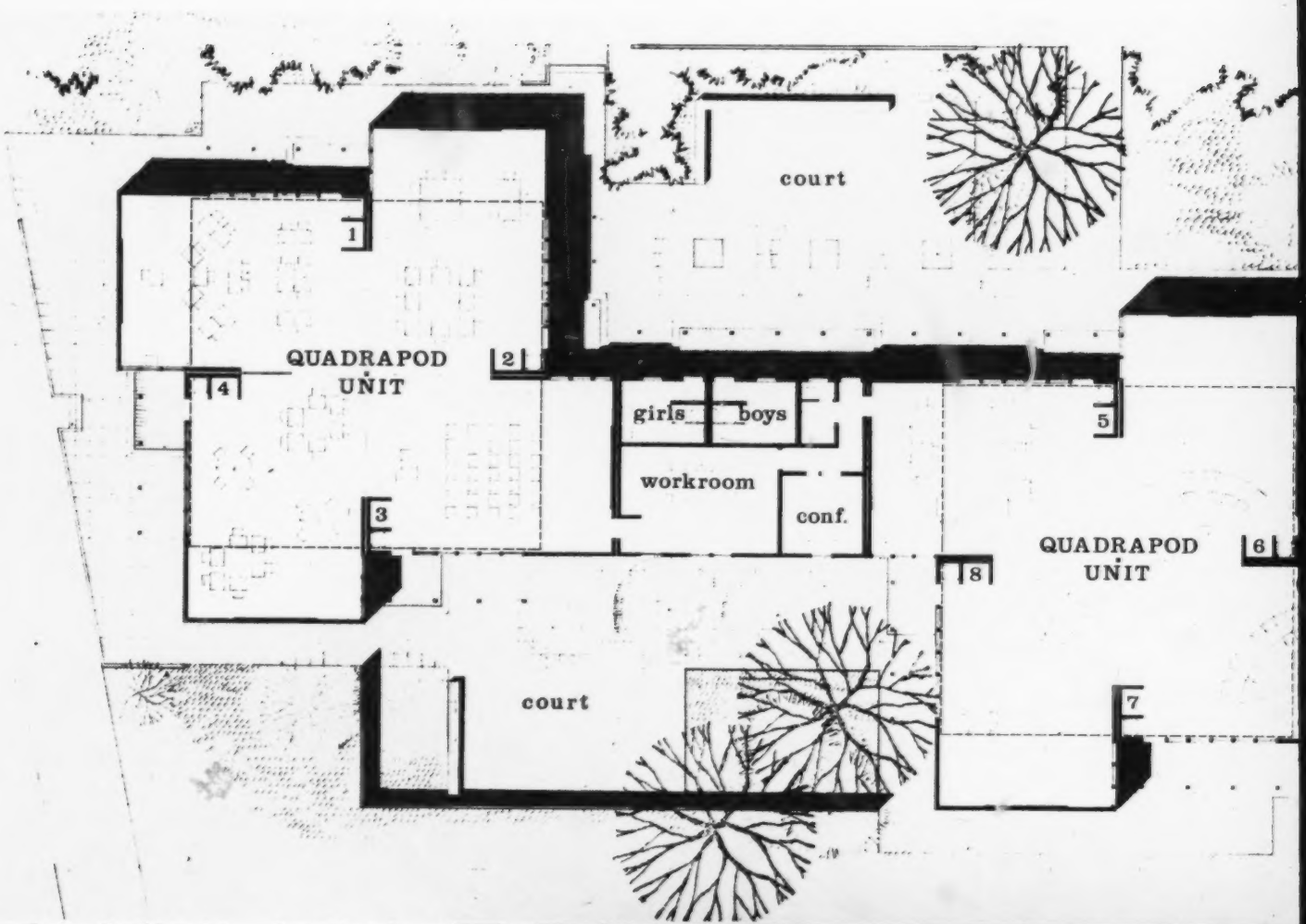


Arendt, Mosher & Grant, architects
Ian J. Crow, superintendent

Relocatable "quadrapod" units designed to serve a rapidly growing school district with mobile population. Each unit contains open space for the equivalent of four classrooms. Workrooms, conference rooms, and toilet facilities are at center. Rectangular sections are transportable by truck. Emphasis is placed on flexibility and attractiveness of movable facilities.


court
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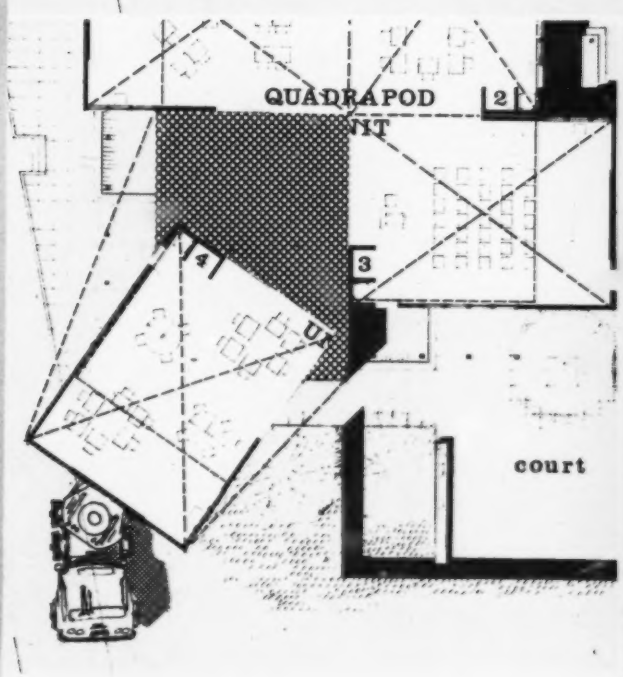
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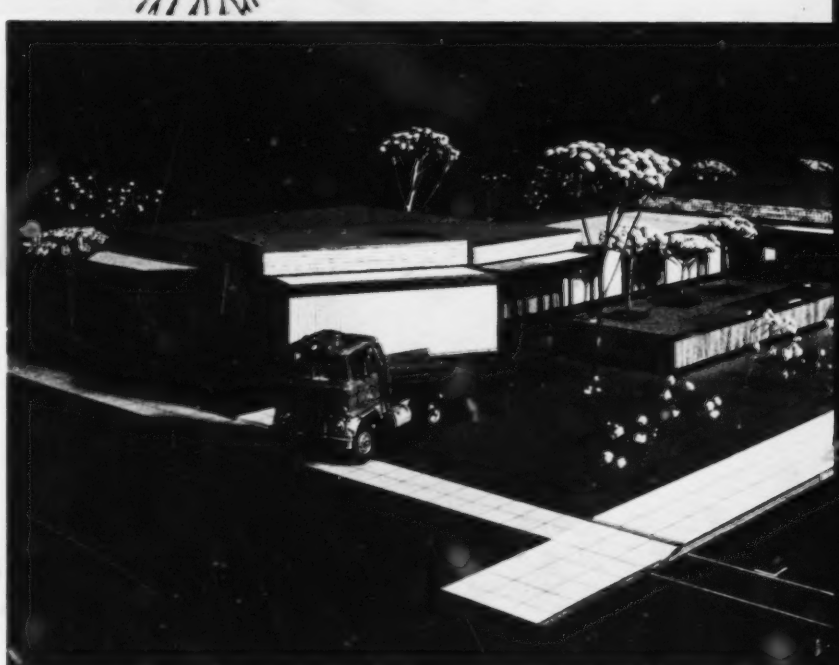

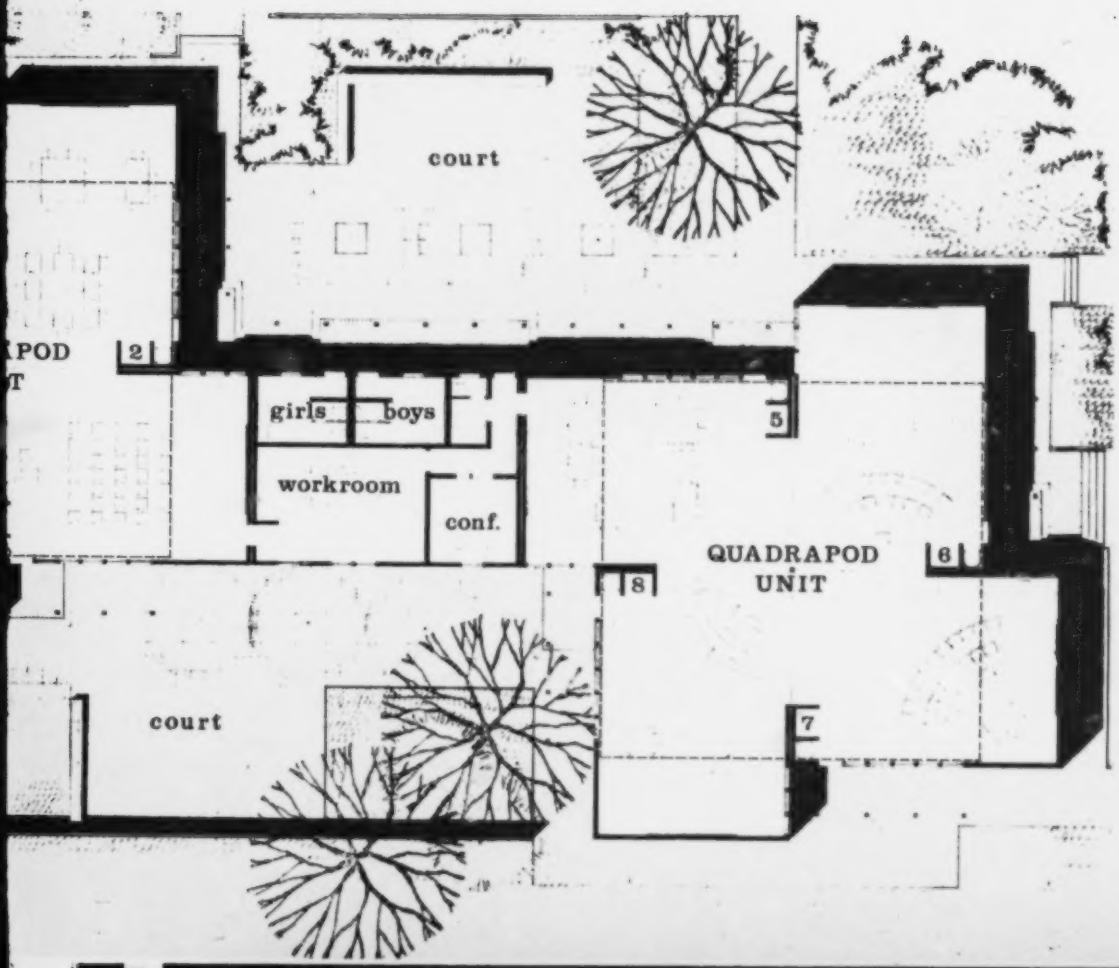
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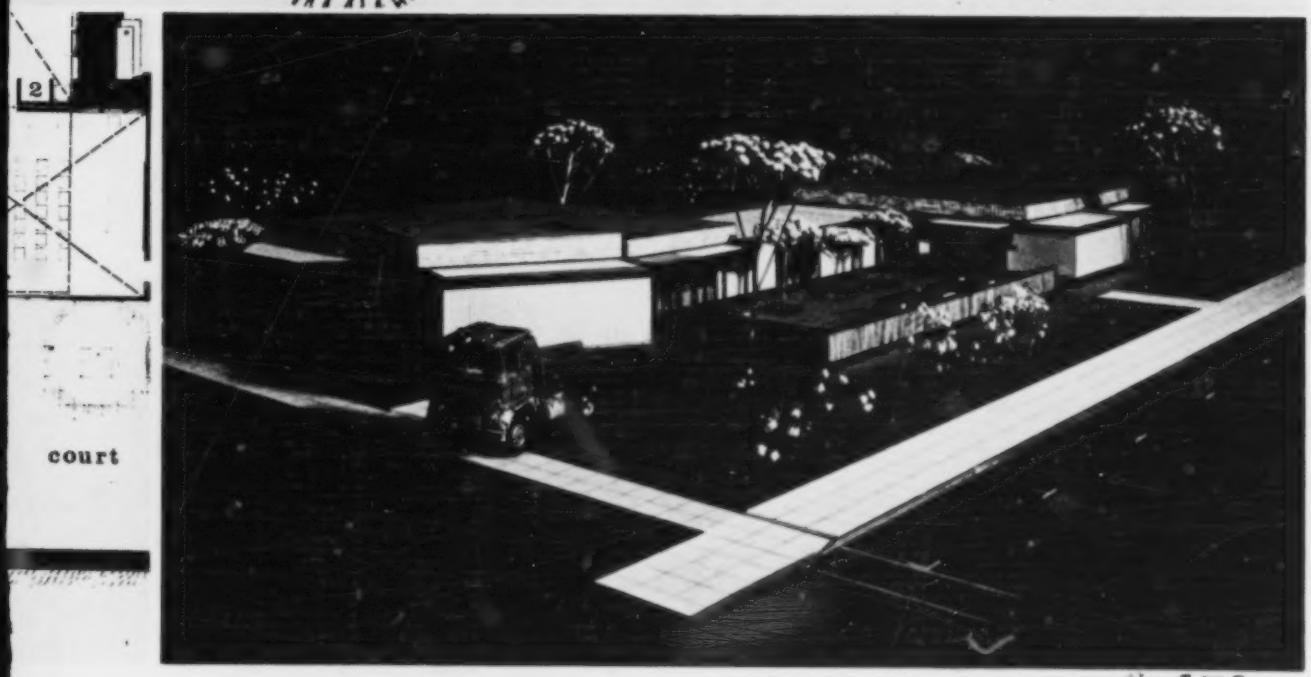
2
court

Middle School
Oregon, Wisconsin

Middle school serving 4-6 grade students in four wide open instructional pods, each accommodating 150 students in a nongraded, multiple-grouping organization. Materials center, administration, and large group room are at the core. Ceiling tracks are provided for demountable walls so that spaces can be changed easily.

John J. Flad & Associates, architects
Phillip Helgeson, superintendent

151

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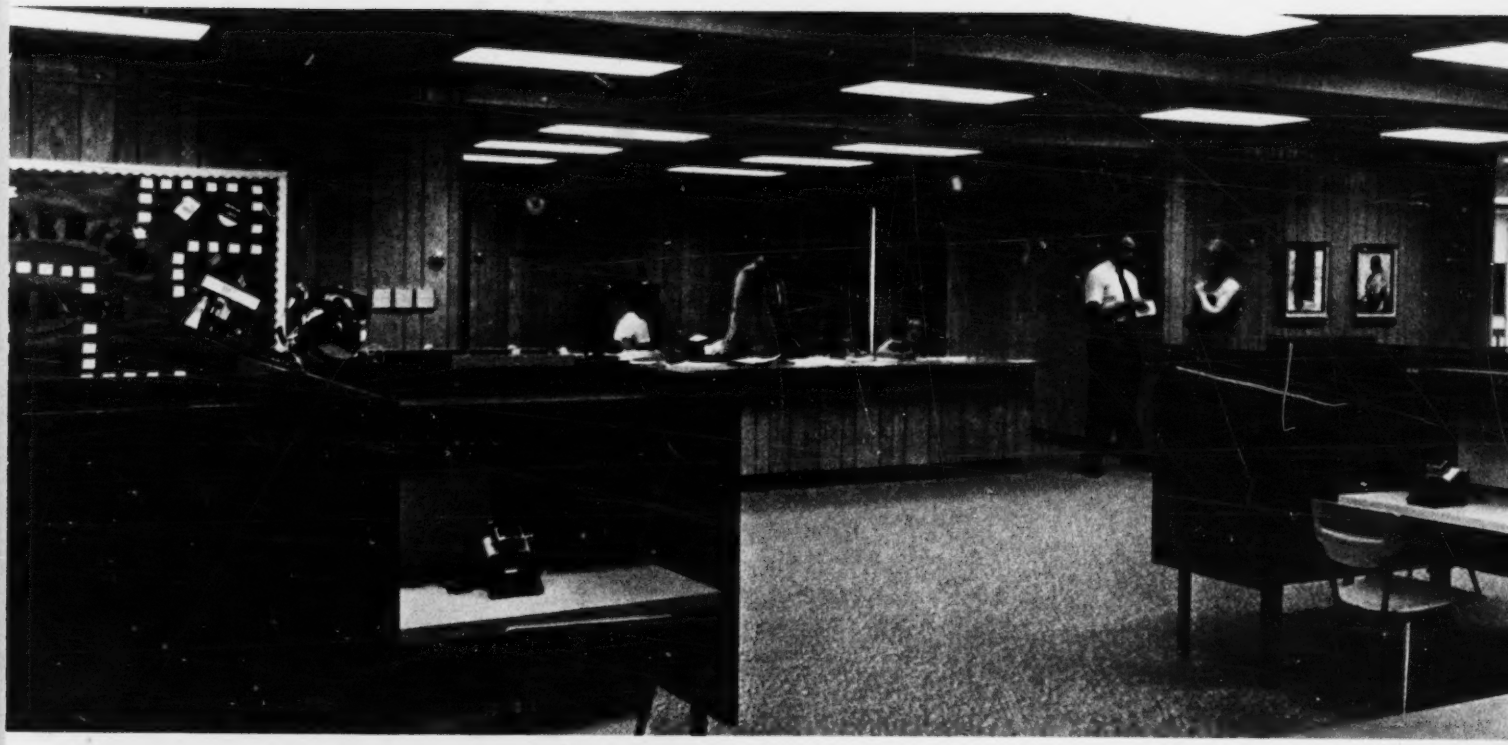

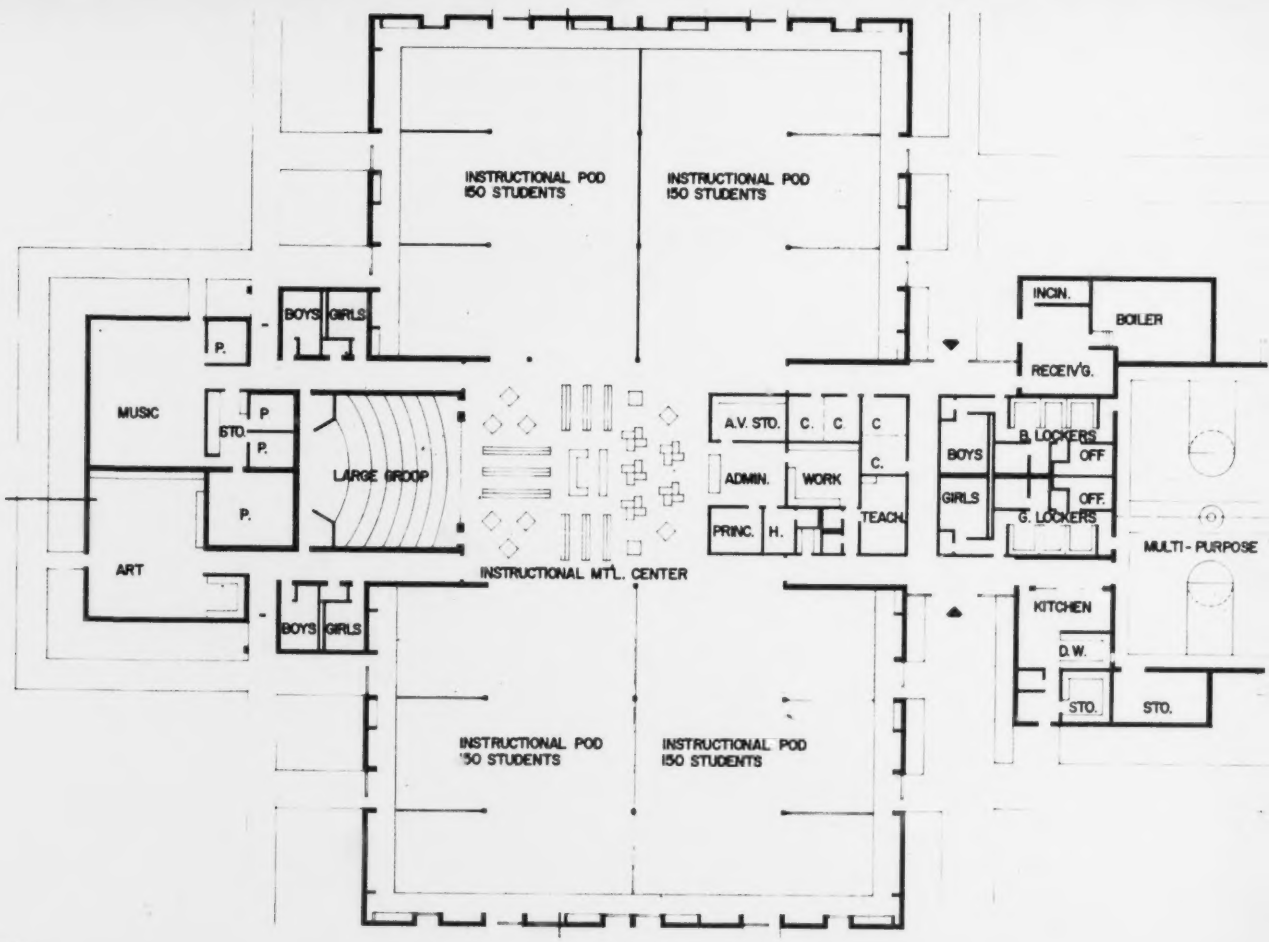
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INSTRUCTIONAL POD
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INSTRUCTIONAL POD
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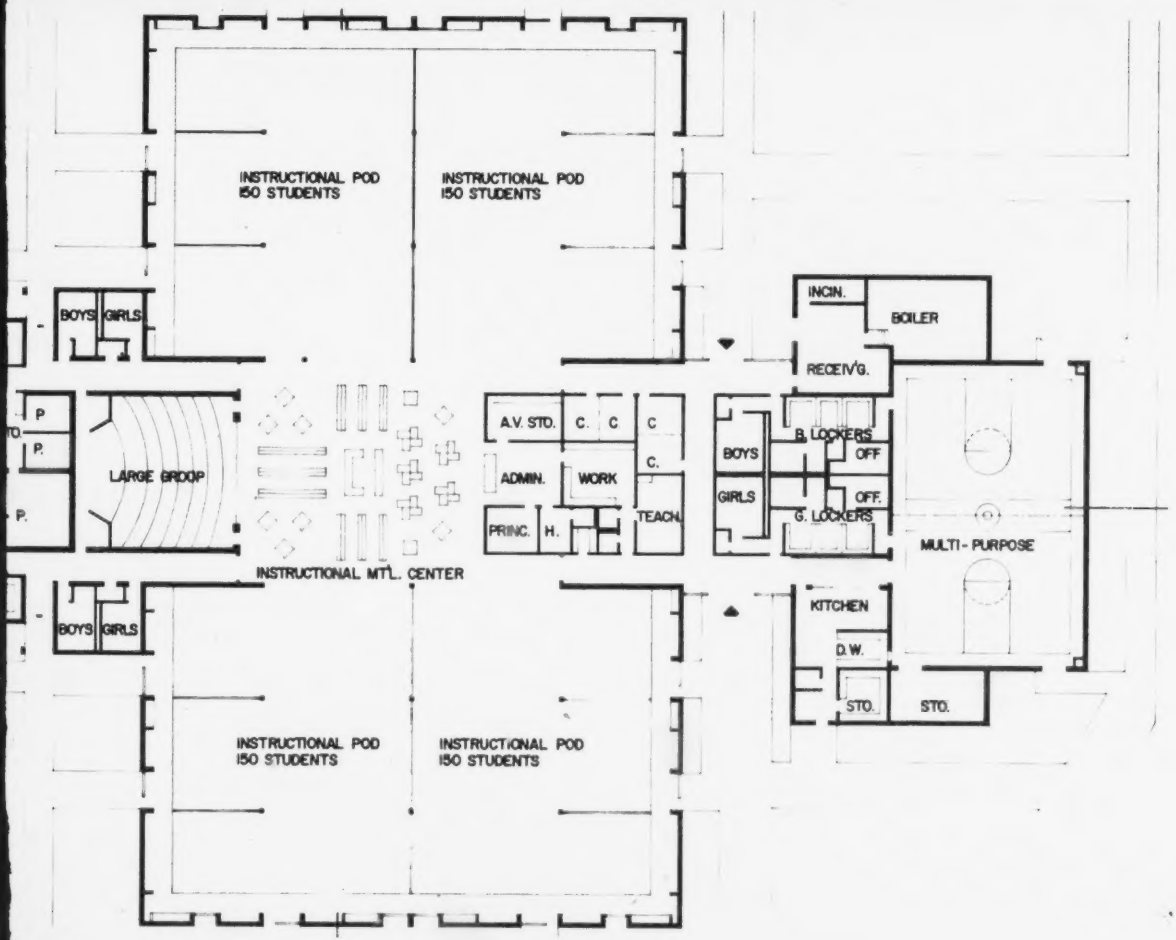
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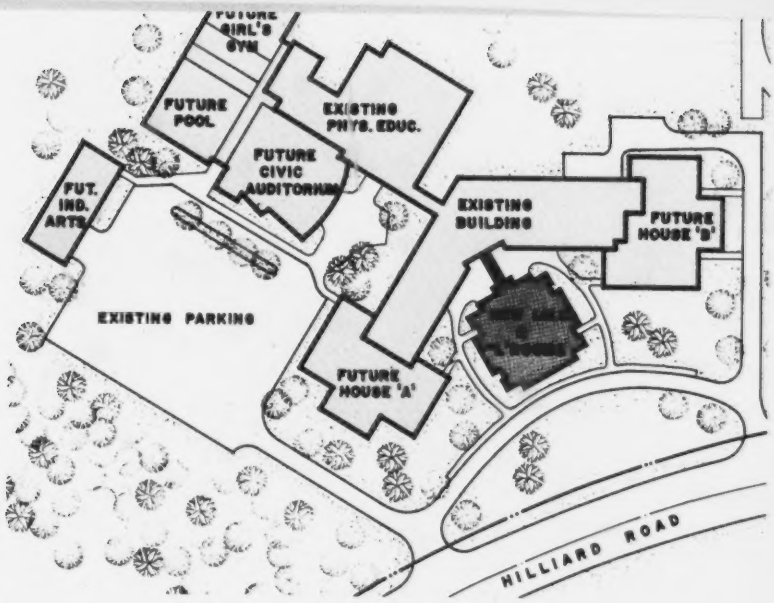
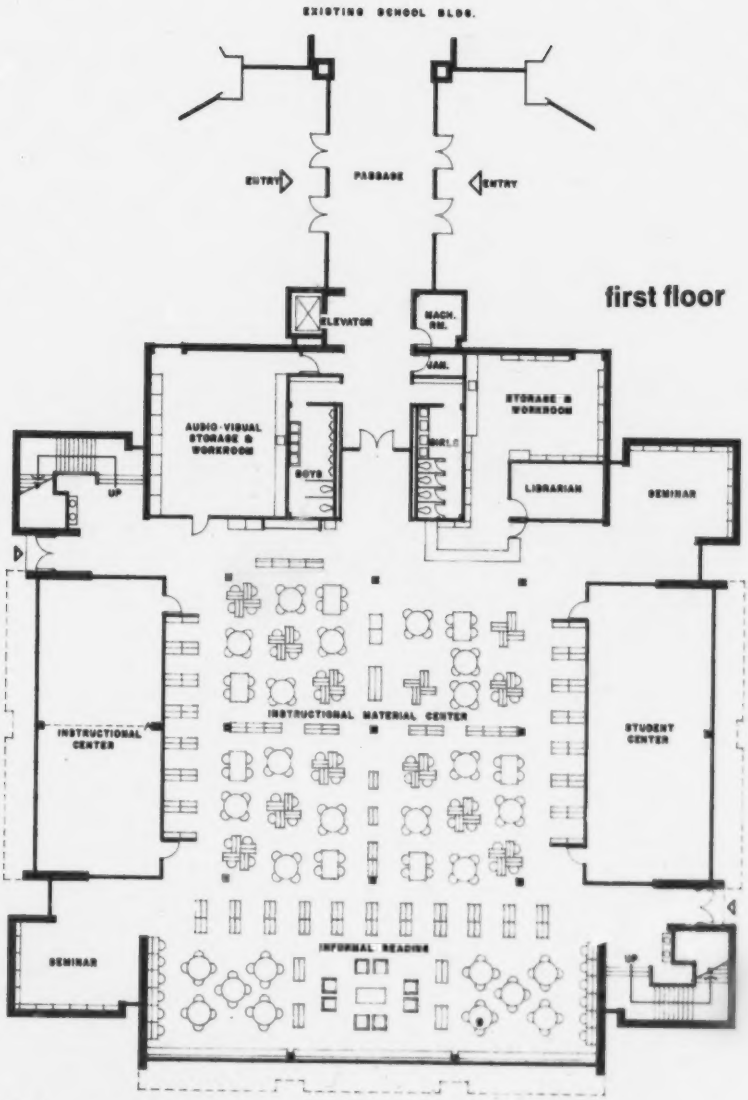
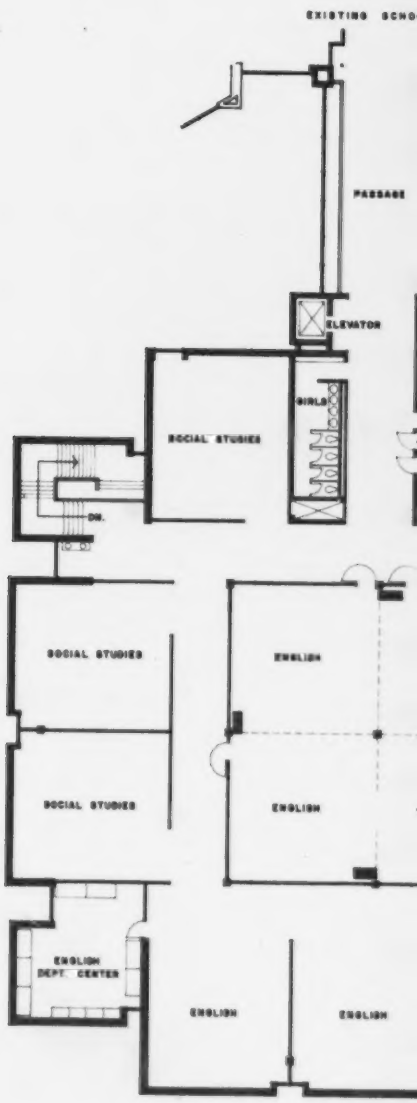
High School
Westlake, Ohio





first floor



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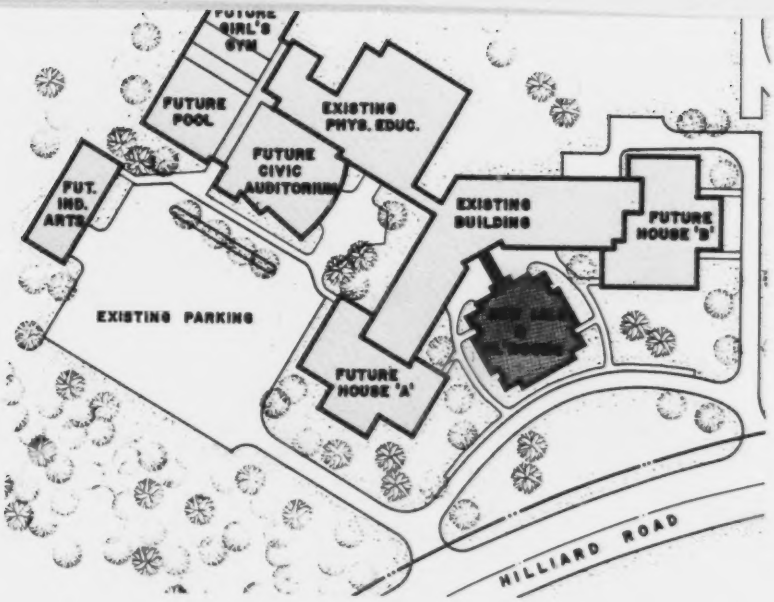
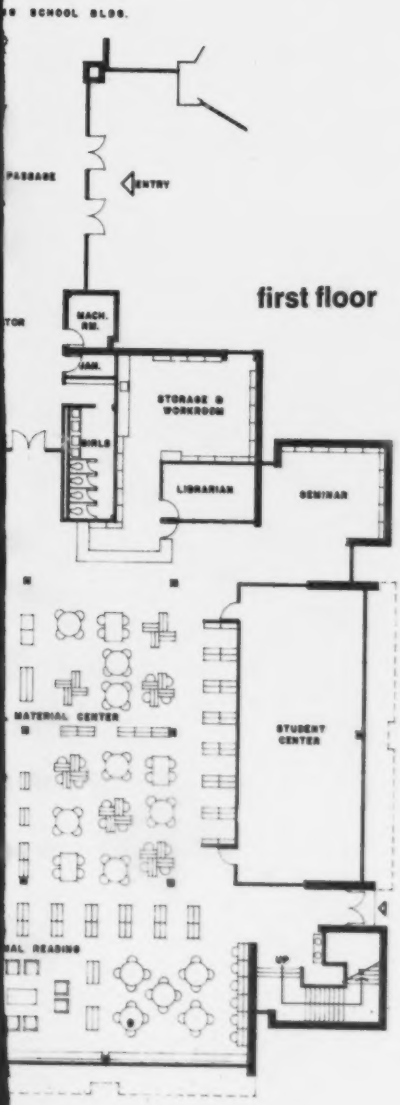
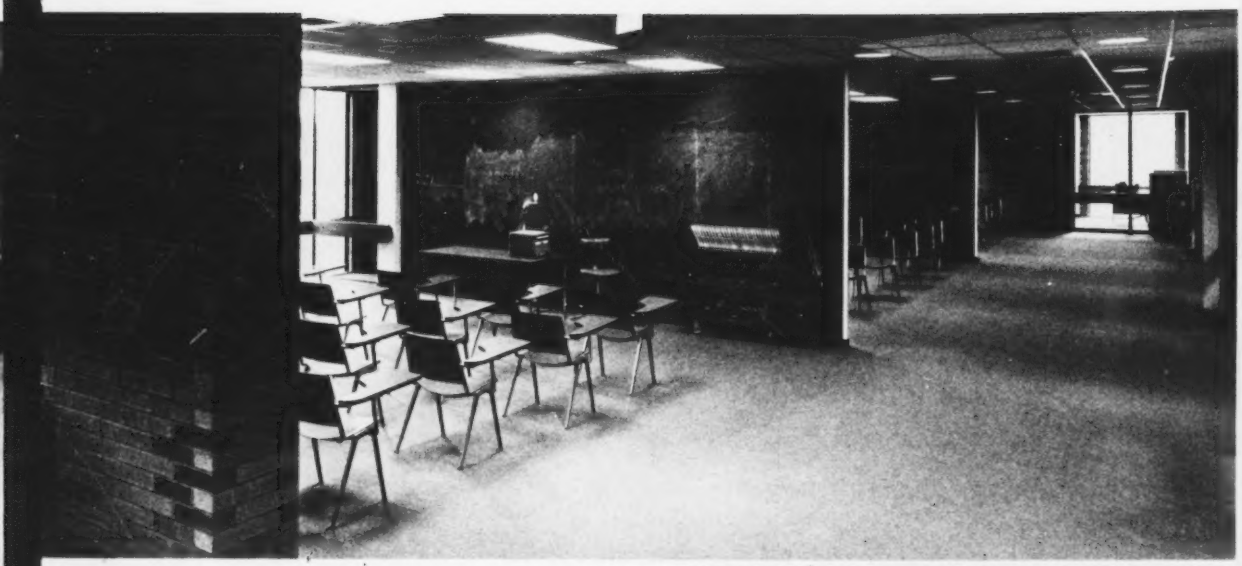

FUTURE GIRL'S GYM
FUTURE POOL
EXISTING PHYS. EDUC.
FUTURE CIVIC AUDITORIUM
FUT. IND. ARTS
EXISTING BUILDING
FUTURE HOUSE 'B'
EXISTING PARKING
FUTURE HOUSE 'A'
HILLIARD ROAD


SCHOOL BLDG.
PASSAGE
ENTRY
first floor
MACH. RM.
JAN.
STORAGE & WORKROOM
GIRLS
LIBRARIAN
SEMINAR
MATERIAL CENTER
STUDENT CENTER
UP

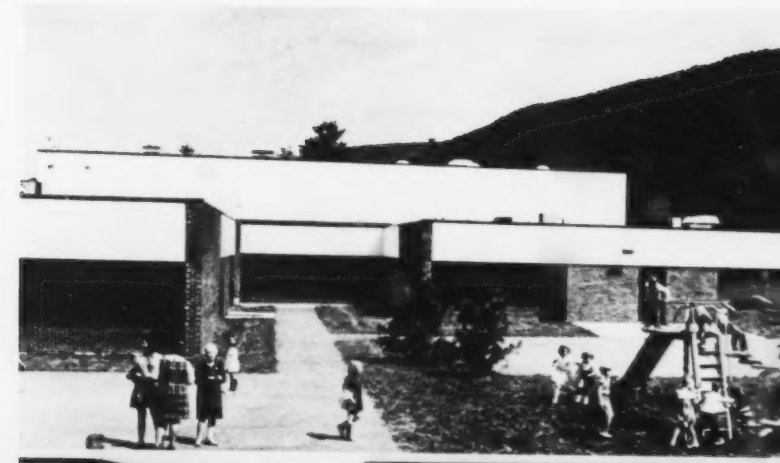
EXISTING SCHOOL BLDG.
PASSAGE
second floor
ELEVATOR
GIRLS
BOYS
JAN.
UP
DN.
SOCIAL STUDIES
SOCIAL STUDIES DEPT. CENTER
ENGLISH
ENGLISH DEPT. CENTER

First addition to an 800-student high school to accommodate an additional 300 students and to provide open space not available in older building. The two-level addition includes an instructional materials center and seminar and work spaces on the first floor and open academic classrooms on the second floor. After future additions, this unit will serve exclusively as an instructional materials center.

Lesko Associates, architects
Kenneth W. Harris, superintendent



Elementary School
Lake George, New York



House plan for an 800-pupil, nongraded elementary school with a commons area at the center of each little house. Partially open space houses for the equivalent of eight classrooms each are equipped with operable walls and movable cabinets. Specialized facilities include a resource center, gym, cafeteria, administration, music, and art.

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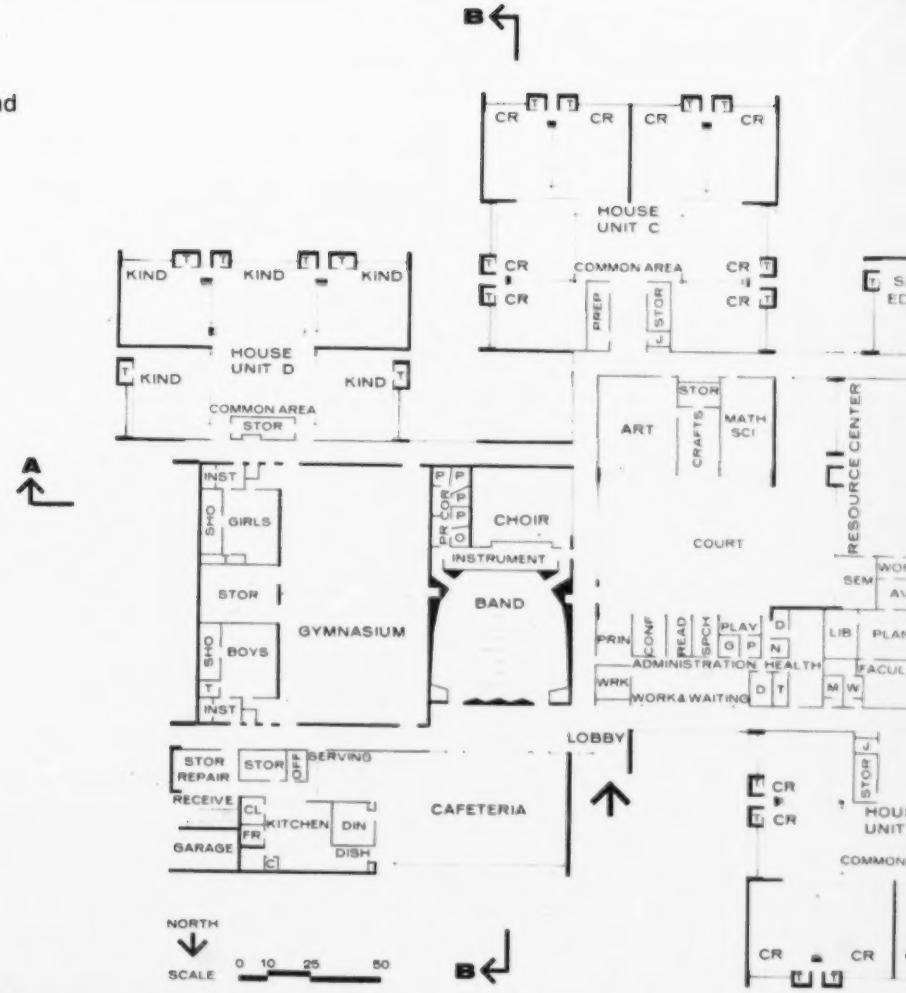
Sargent, Webster, Crenshaw & Folley, and
Crandall Associates, architects
John M. Shevrovich, superintendent



B
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HOUSE UNIT D
COMMON AREA
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HOUSE UNIT B
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CRAFTS
MATH SCI
RESOURCE CENTER
COURT
INST
GIRLS
SHO
CHOIR
INSTRUMENT
BAND
GYMNASIUM
BOYS
WORK
SEM
AV
PRIN
CONF
READ
SPCH
PLAY
LIB
PLAN
ADMINISTRATION
HEALTH
FACULTY
WRK
WORK & WAITING
LOBBY
STOR REPAIR
SERVING
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RECEIVE
CL
KITCHEN
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GARAGE
DISH
CAFETERIA
HOUSE UNIT A
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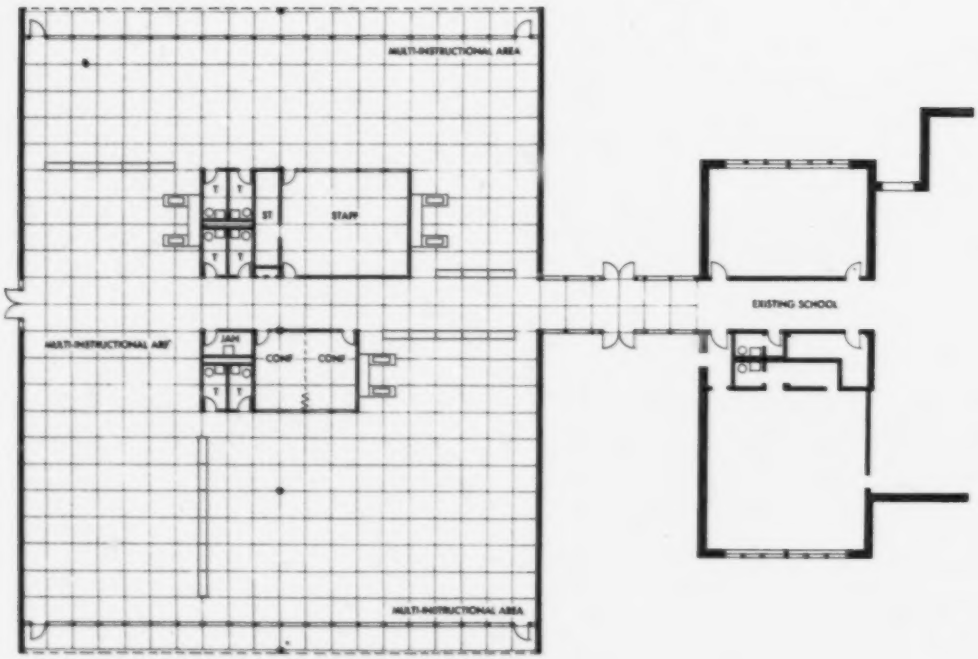
A

Birch Elementary School
Merrick, New York

Primary learning center addition to each of three elementary schools in this district was programmed, designed, and completed within a year. Space provided is completely open, multi-instructional area with staff and conference rooms and toilet facilities as committed space at core. Long-span steel structural system provides virtually column-free space.



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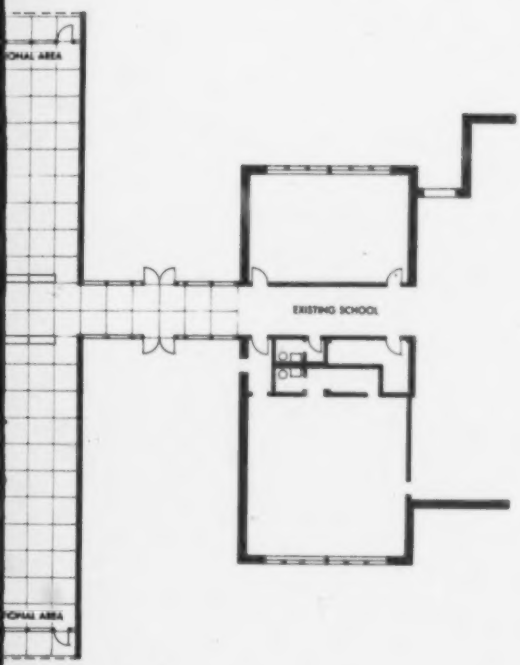
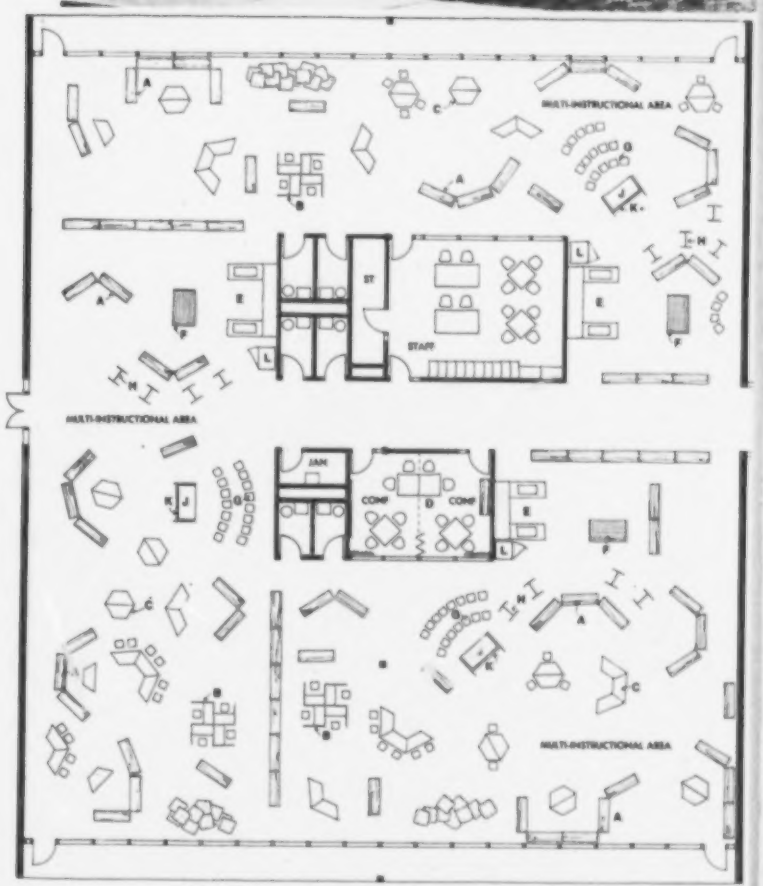

EXISTING SCHOOL


MULTI-INSTRUCTIONAL AREA
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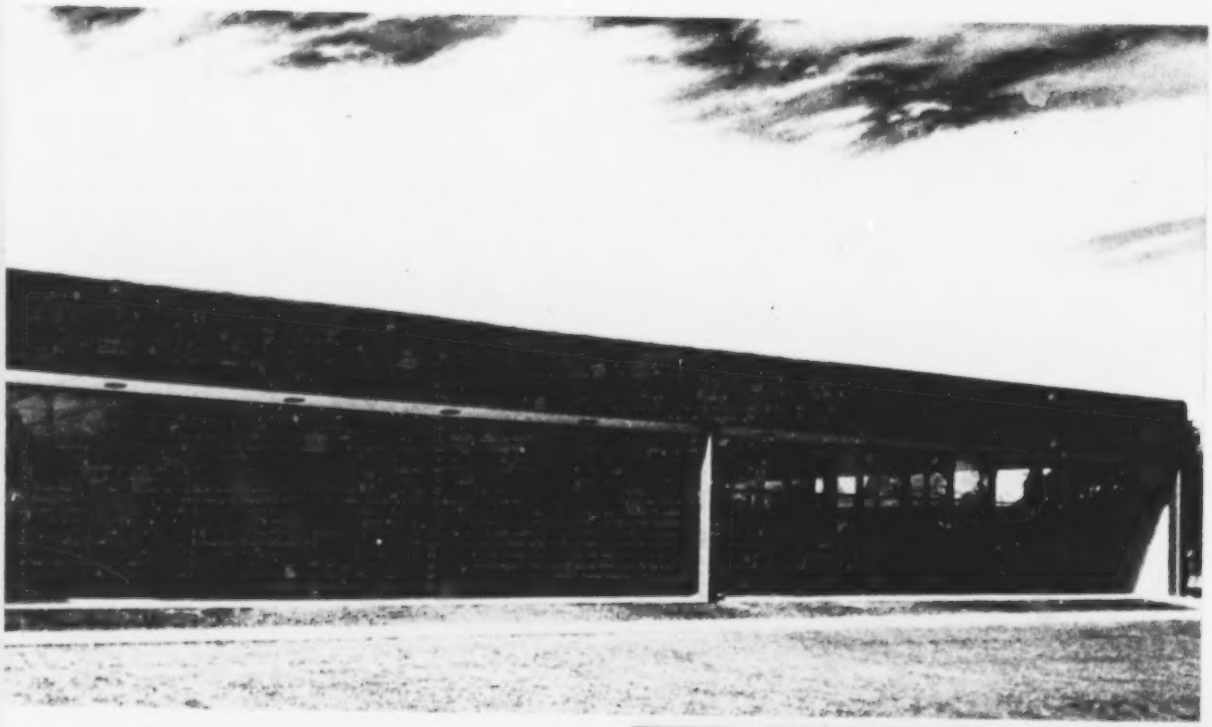
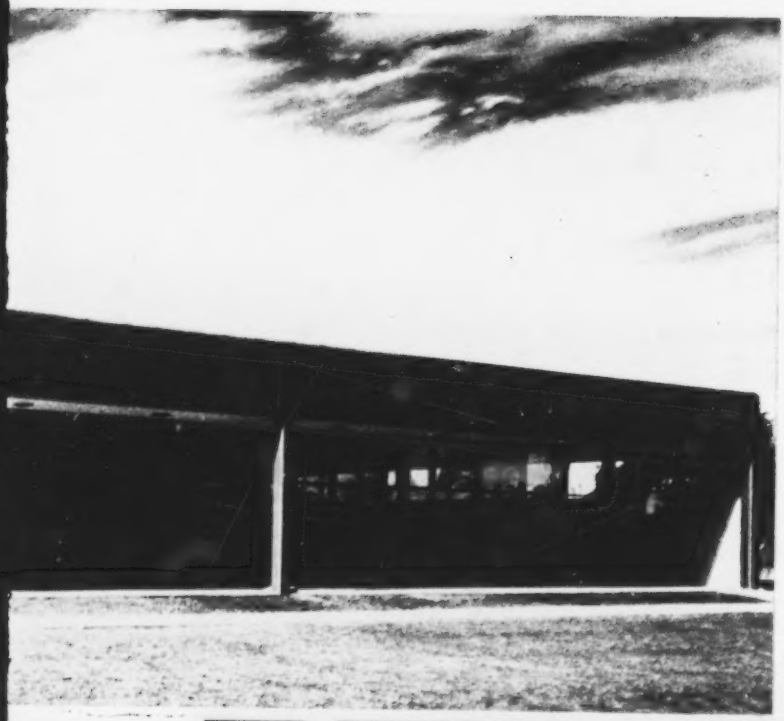


Caudill, Rowlett & S
Robert C. Miles, dist

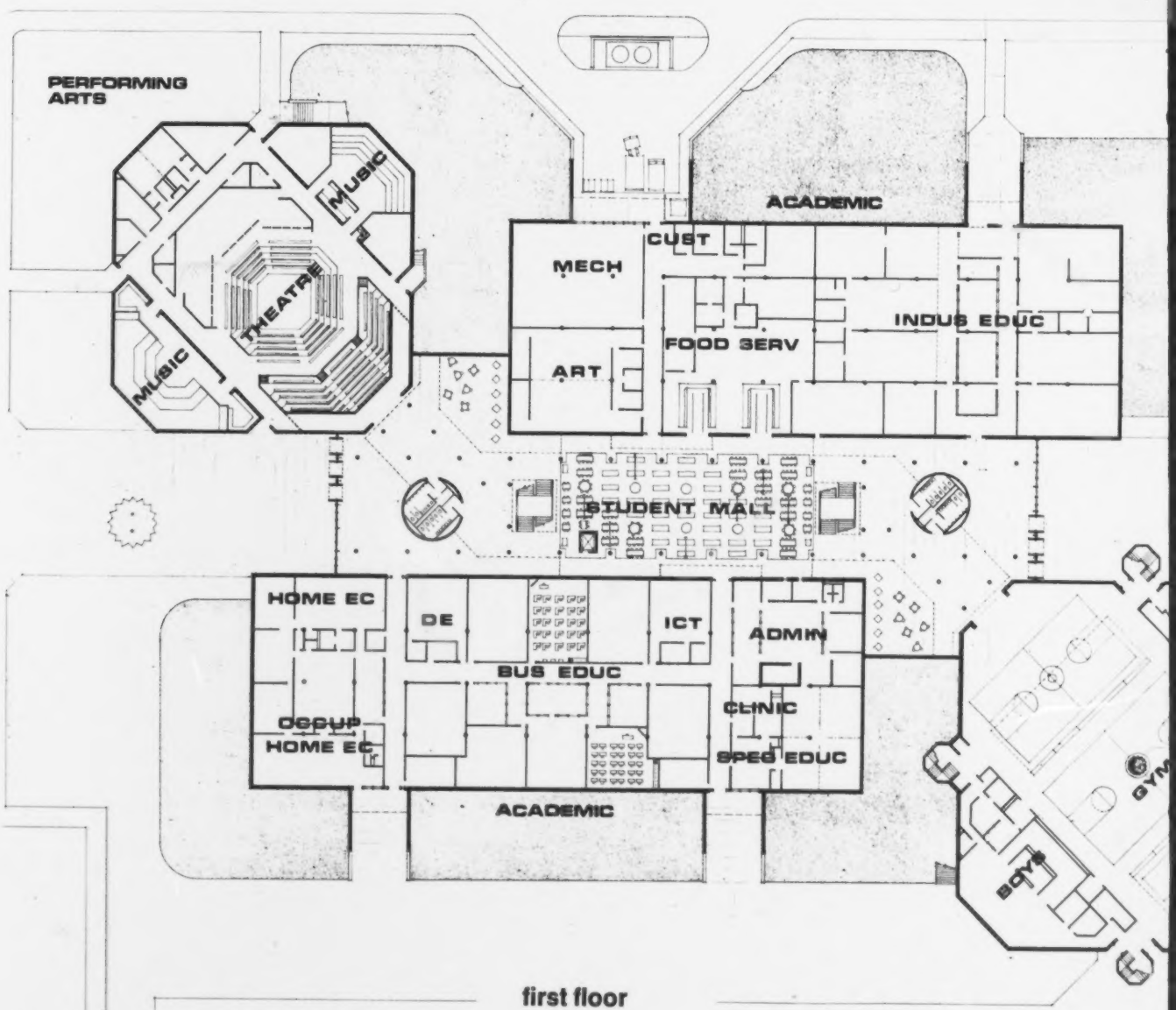


Caudill, Rowlett & Scott, architects
Robert C. Miles, district administrator

Phoebus High School
Hampton, Virginia

Two-level high school with semi-open academic spaces at the upper level, and more closed spaces for art and music, physical education, home economics, business education, and administration at the first level.
The school is designed around a student mall bridged by an upper level library.

Rancorn, Wildman & Krause and
Perkins & Will, architects
Garland R. Lively, superintendent



first floor

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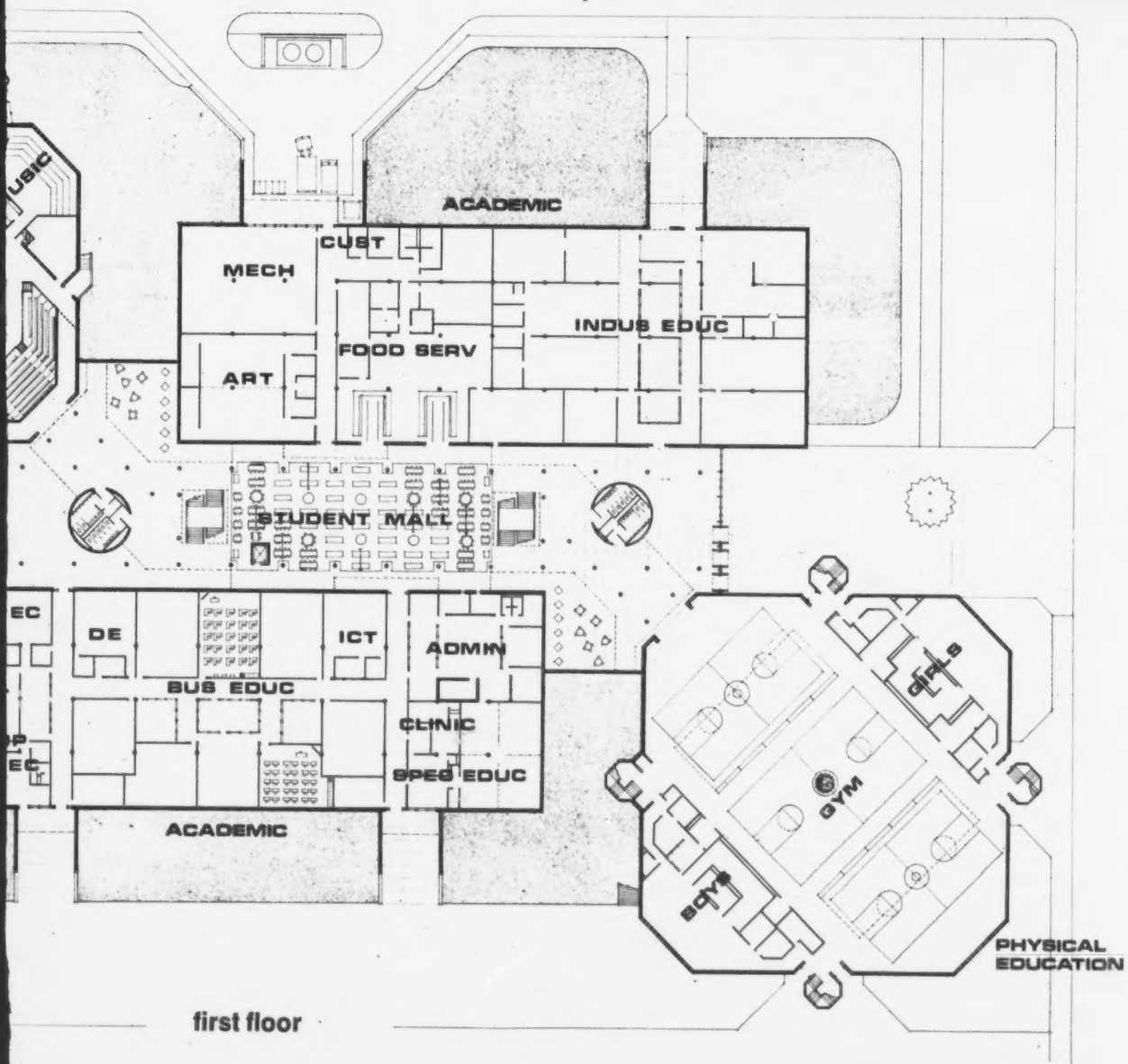
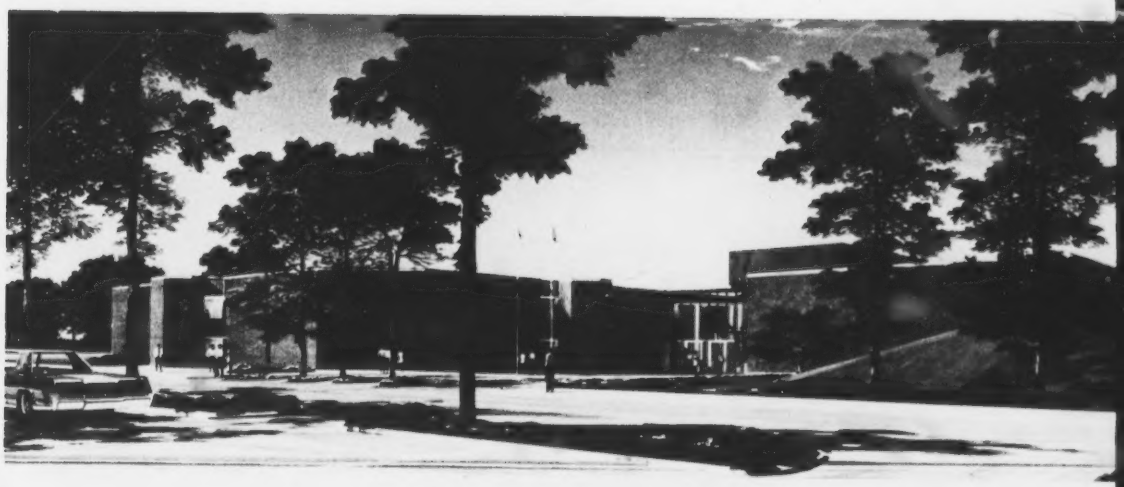
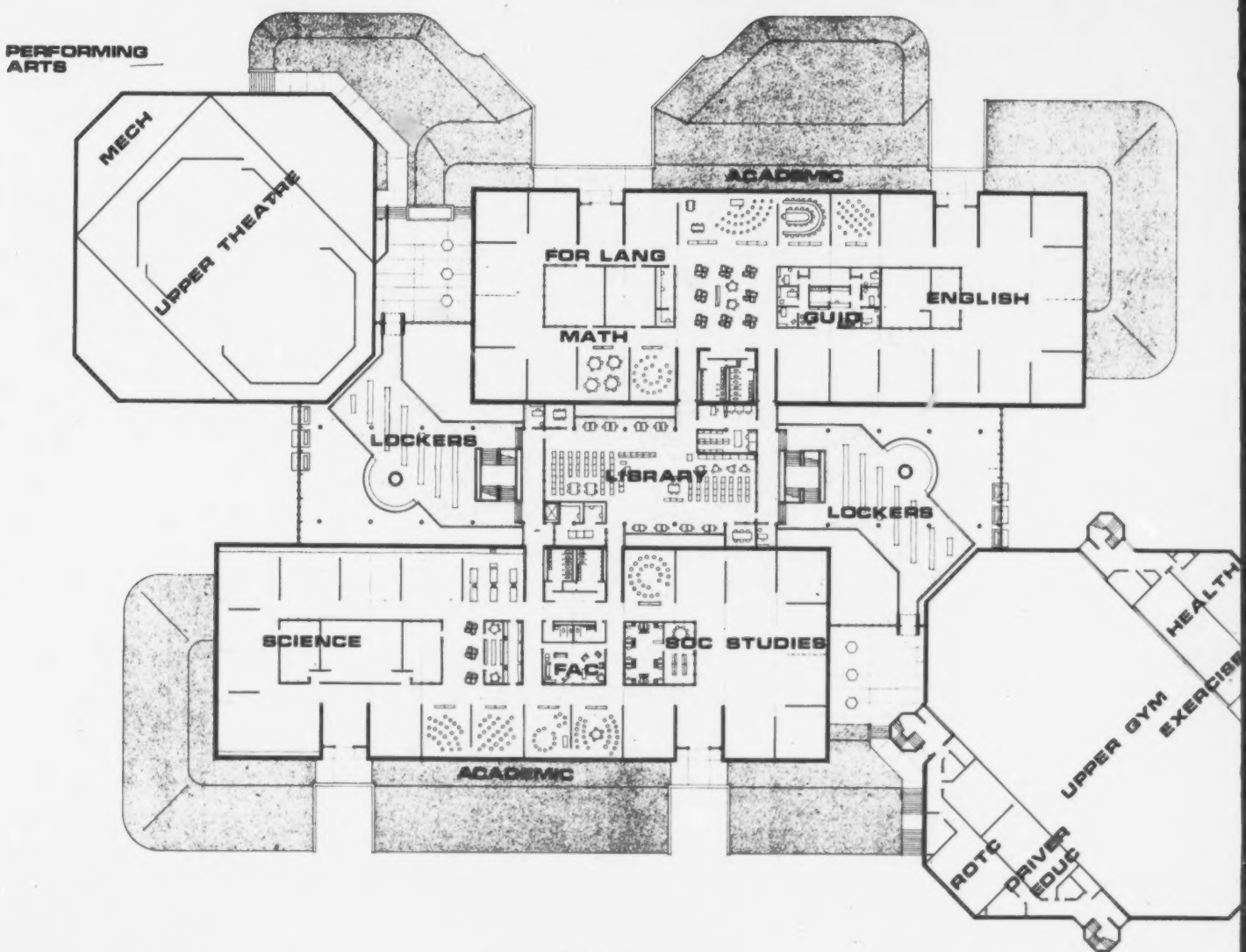
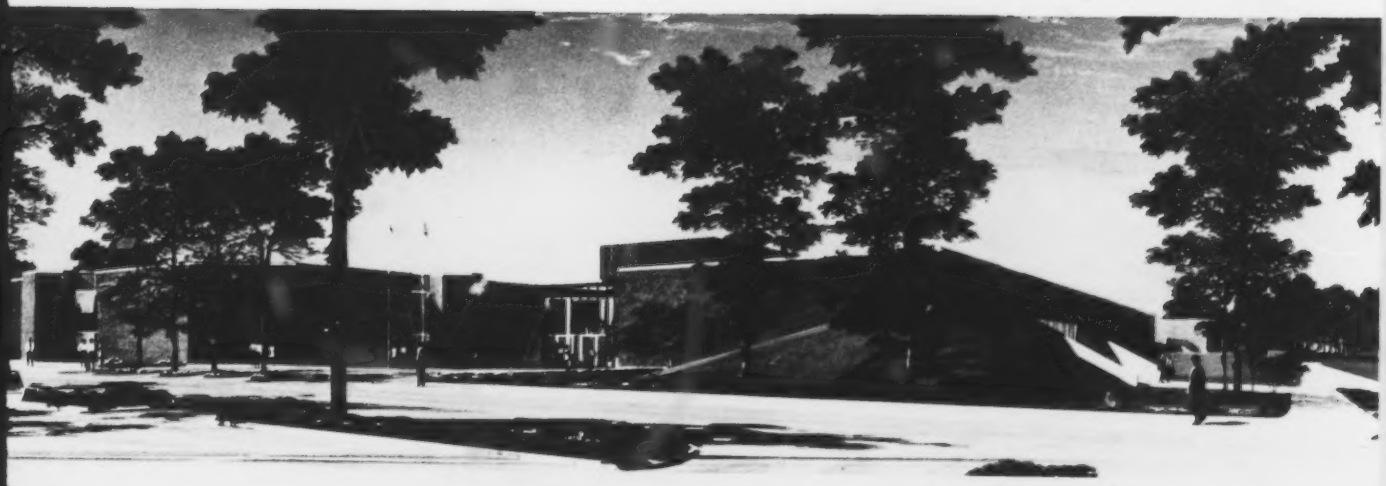


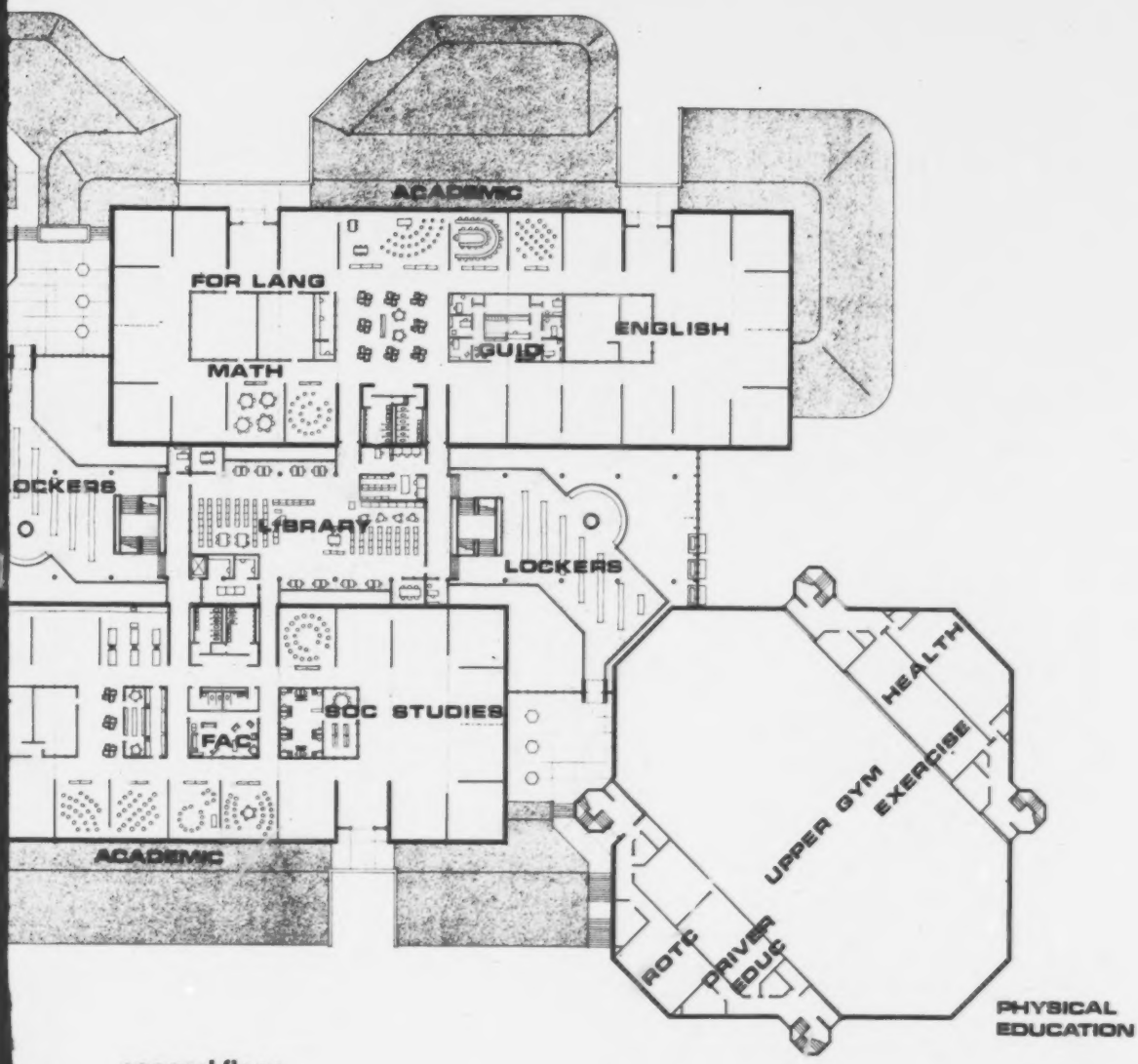
first floor





second floor

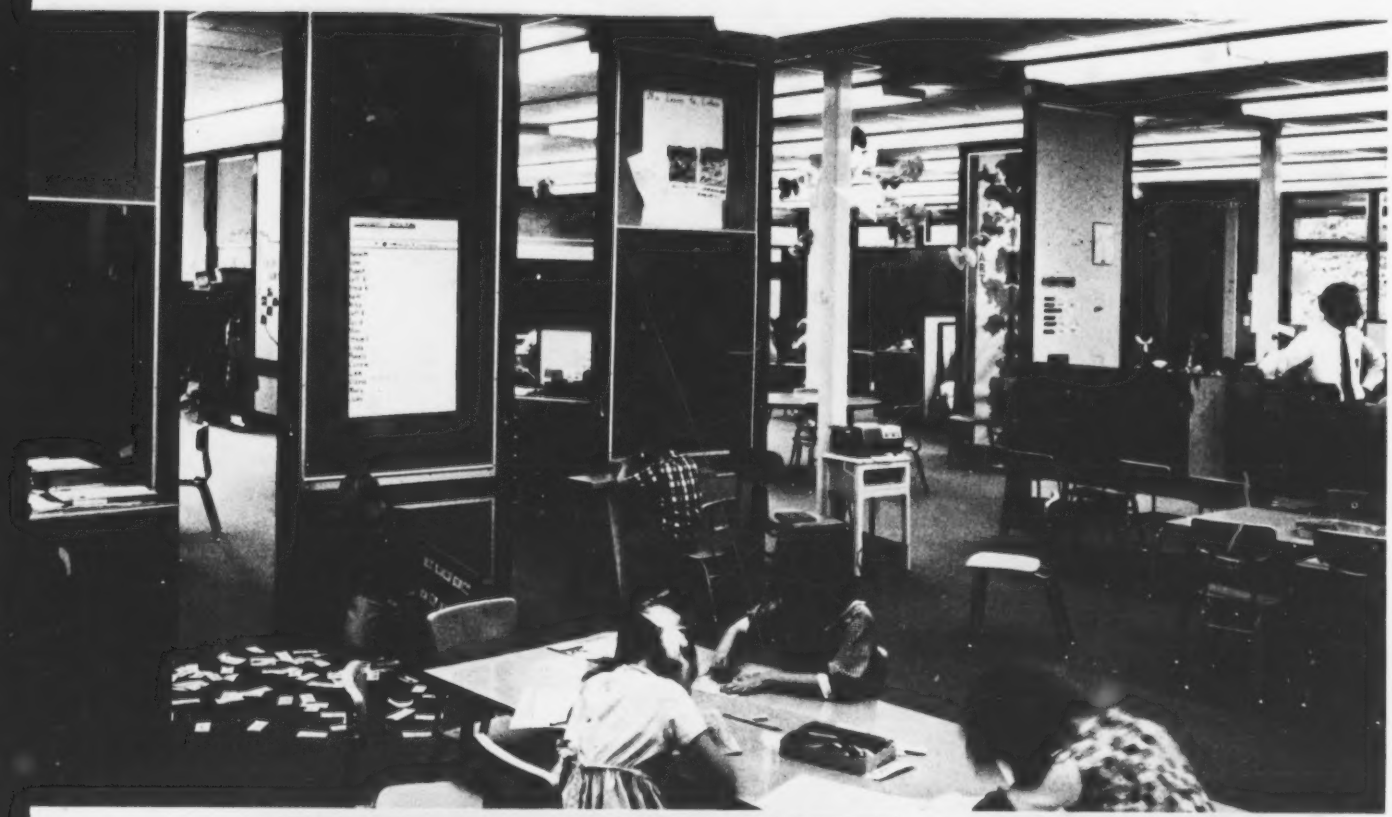


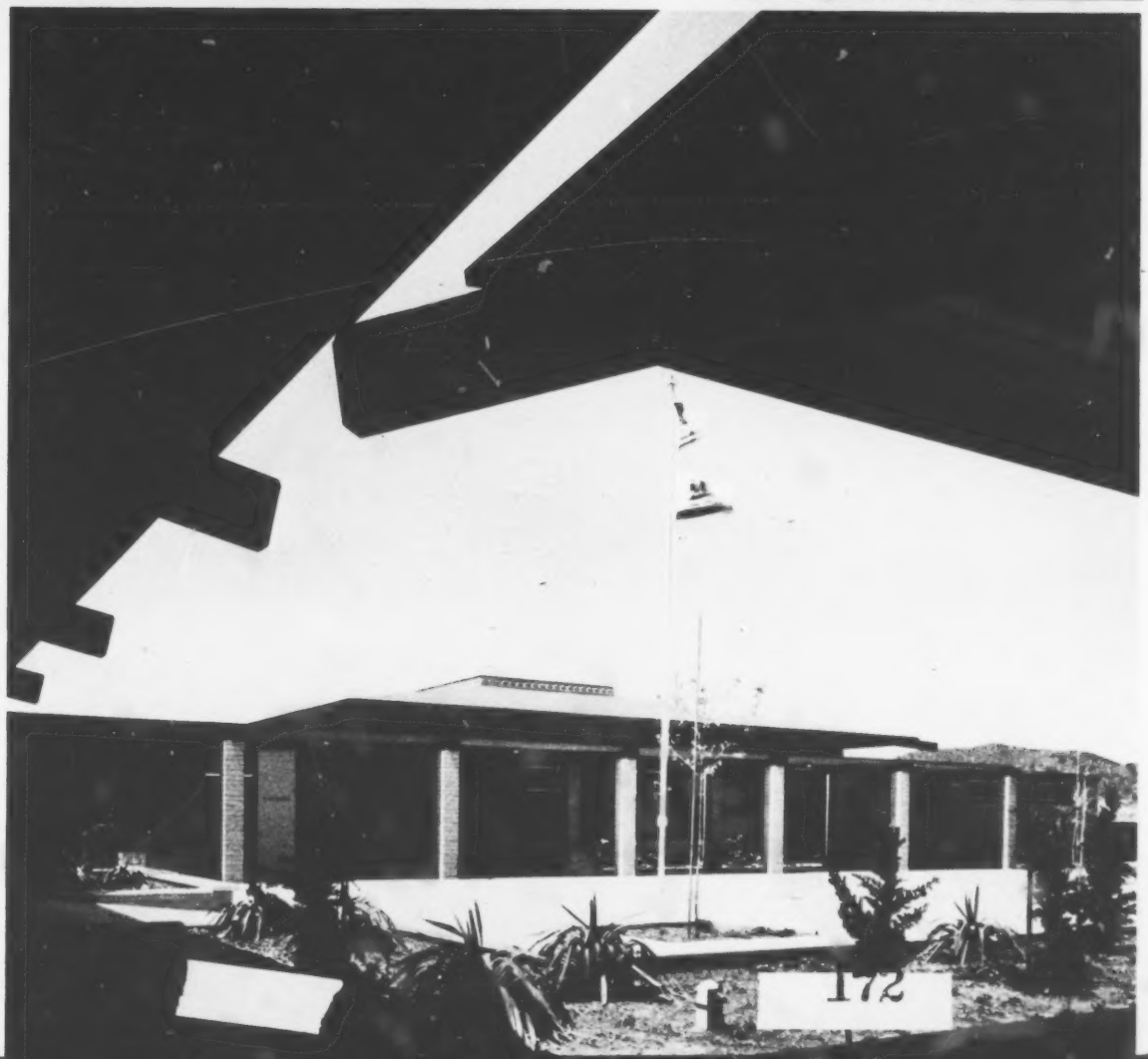


second floor

Banyan Elementary School
Newbury Park, California

Campus plan with instructional units each containing space for the equivalent of four classrooms and an interior commons area, and separate kindergarten and administration-multipurpose units. Sliding visual dividers in instructonal units allow division of open space.





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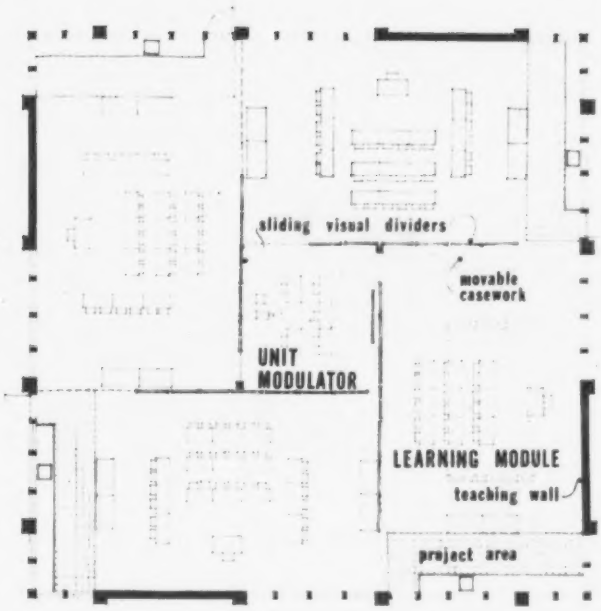
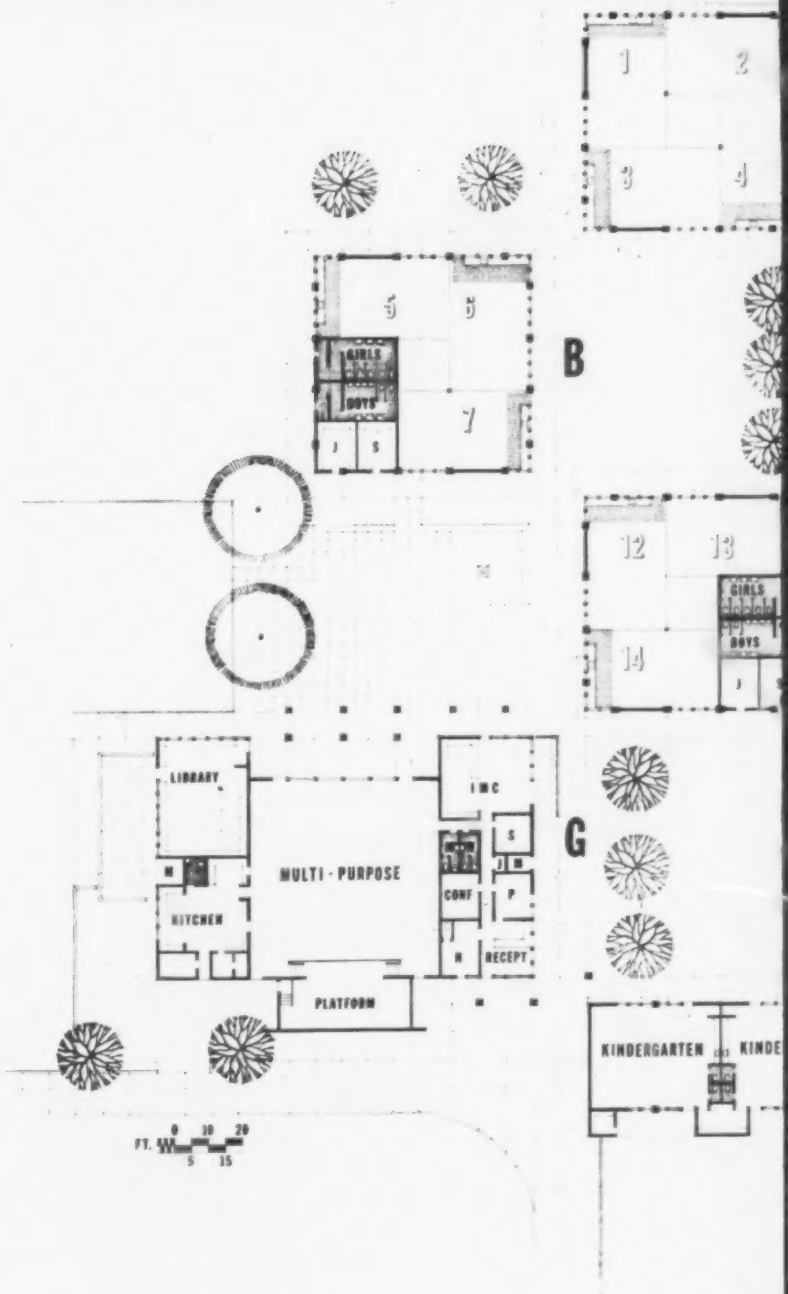
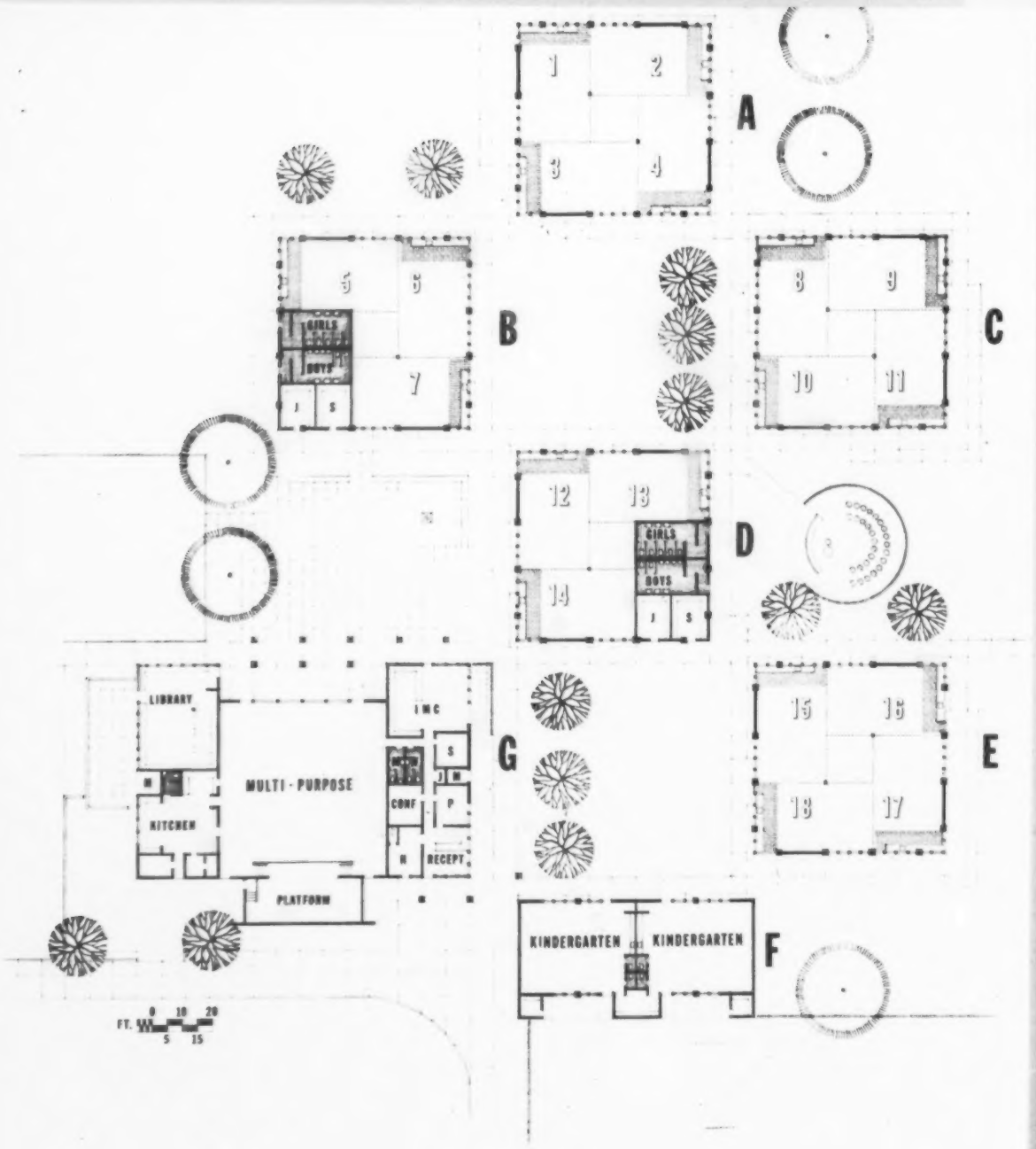
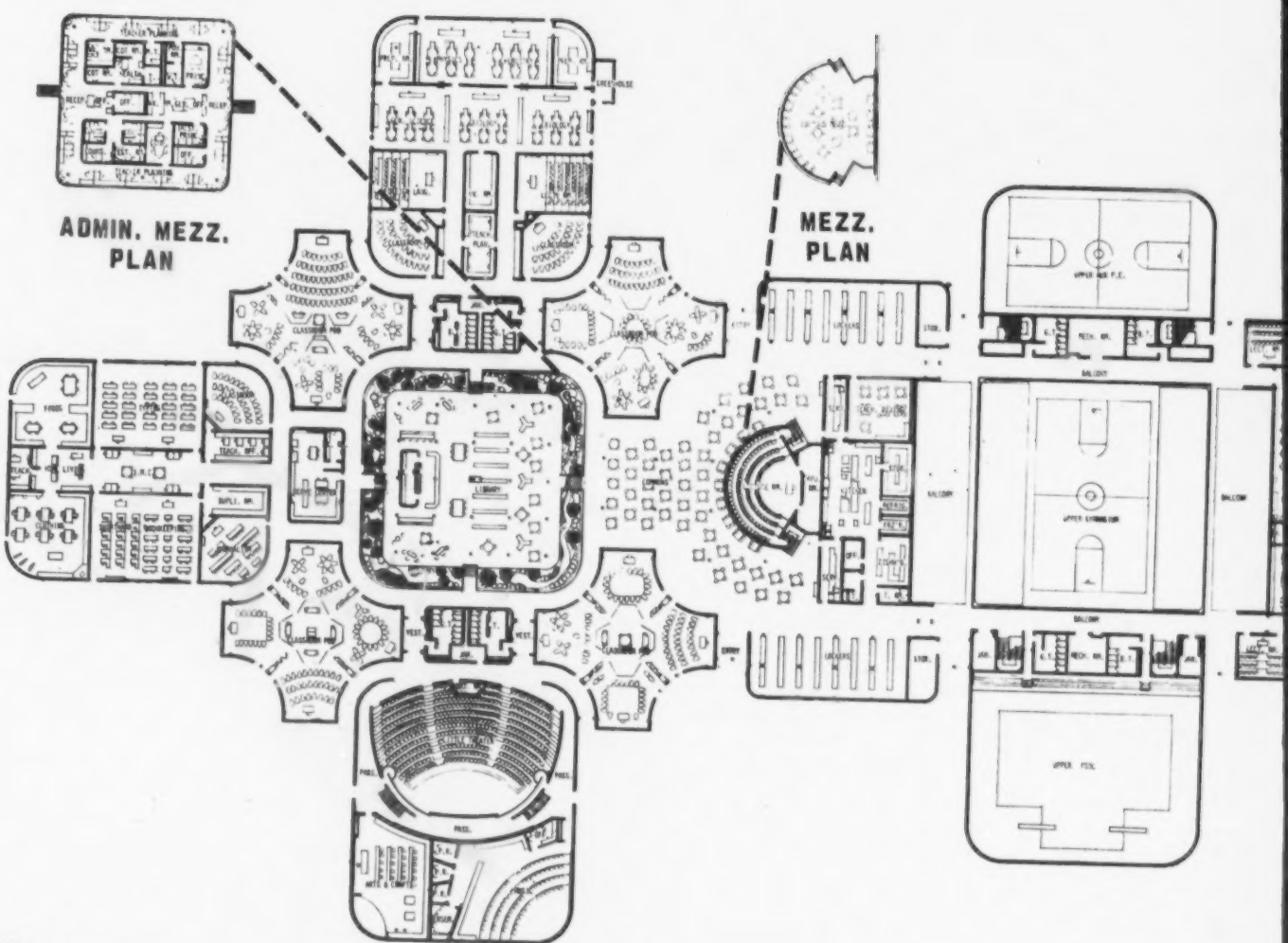




Arendt, Mosher & Grant
Arthur N. Thayer, super



Arendt, Mosher & Grant, architects
Arthur N. Thayer, superintendent



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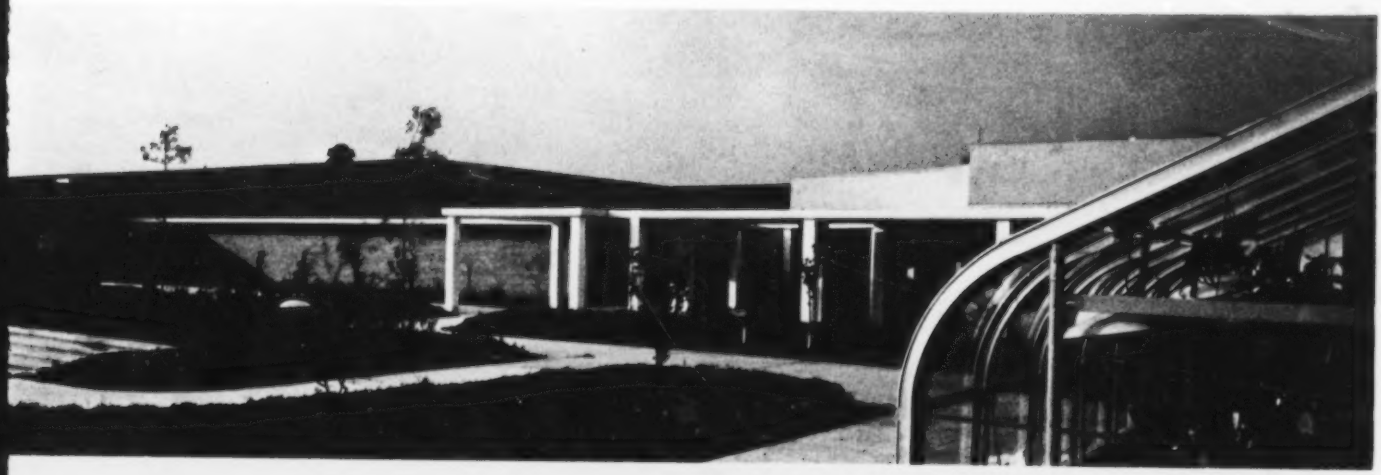
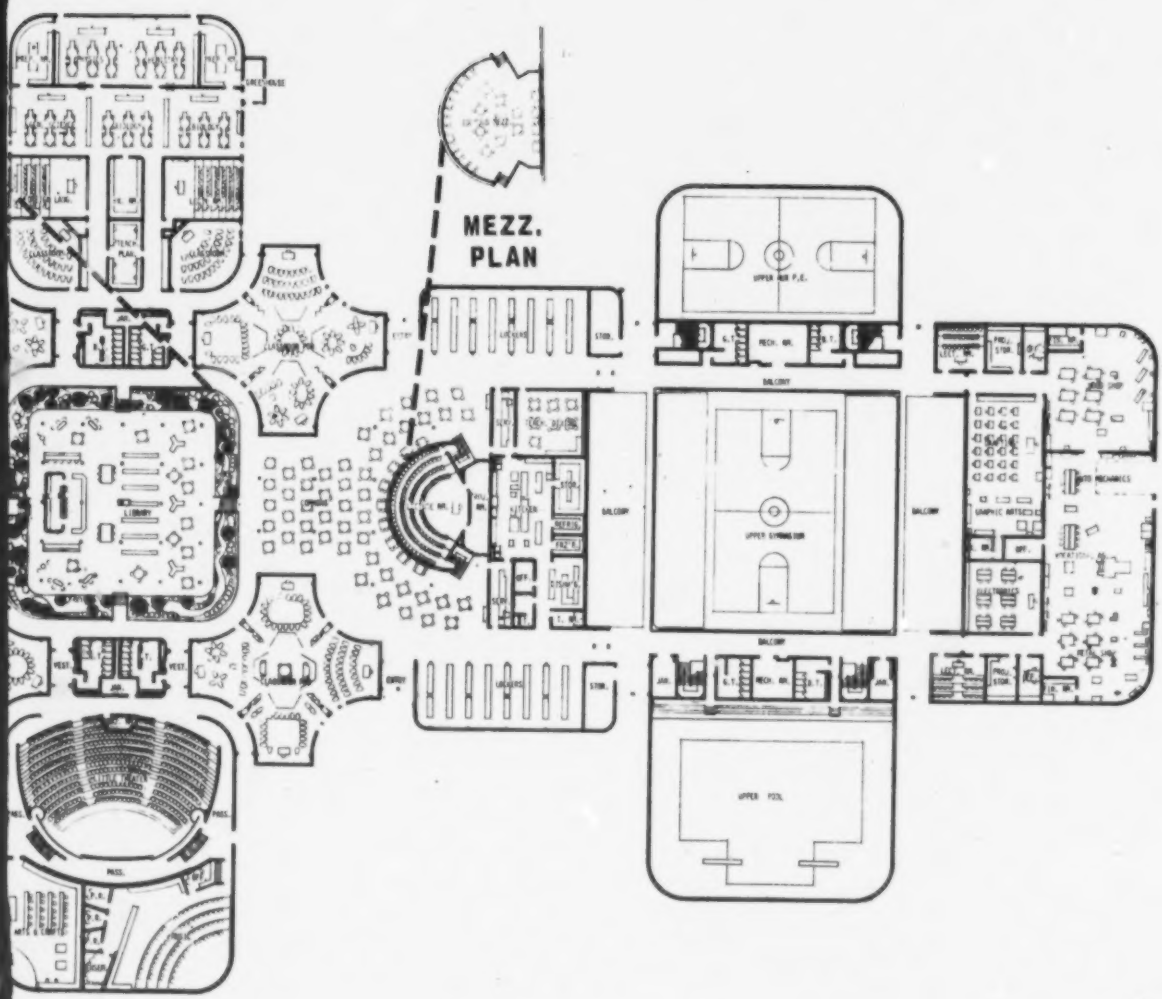



MEZZ.
PLAN

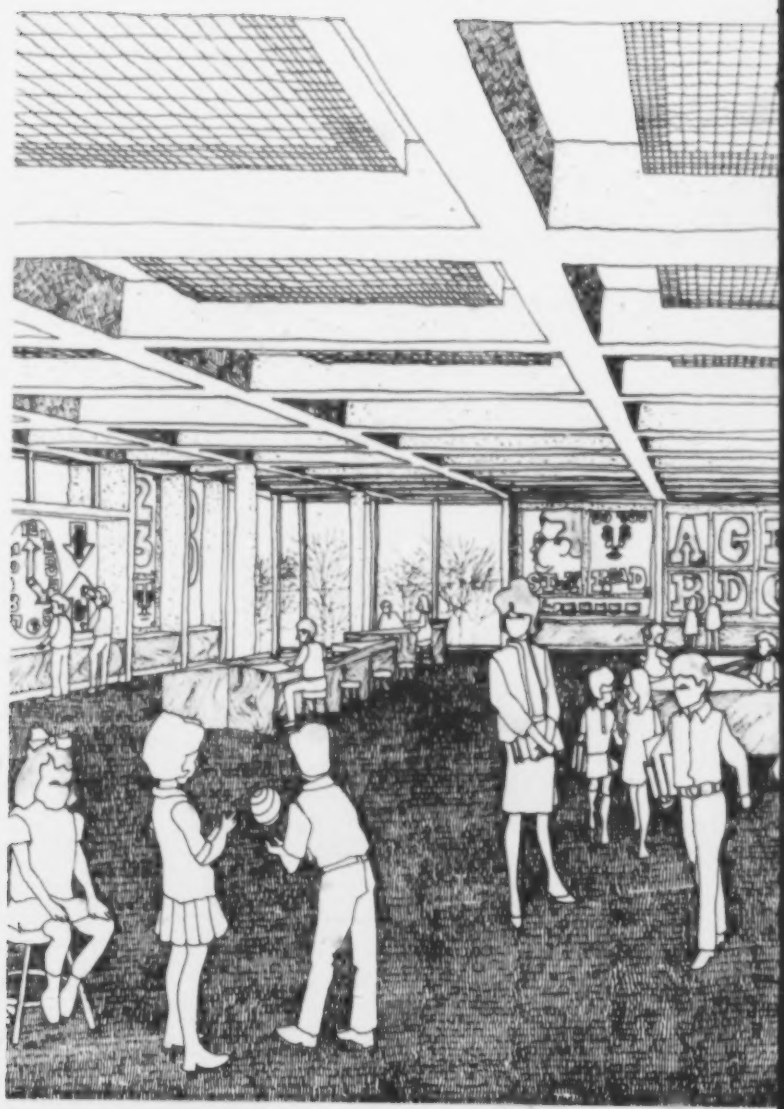
Community High School
Delphi, Indiana

Large compact plan with open and semi-open space pods for English, social studies, mathematics, and foreign languages, and more closed spaces for science, music, industrial and fine arts, physical education and shops. Focal point of the school is the library surrounded by an interior rock garden.

Shaver & Company, architects
Arthur O. Weddell, superintendent

Mt. Hope Elementary School
Rockaway, New Jersey

A two-story building with specialized and more committed spaces at the lower floor and all open space at the upper floor. Only permanent walls in the interior at this level are for stairwells and toilet facilities. Present layout has the library at the center, with open space surrounding it. Cafeteria, gymnasium, health suite, and administration and kindergarten unit are at the lower level.



Perkins & Will, architects
Richard A. Linett, superintendent

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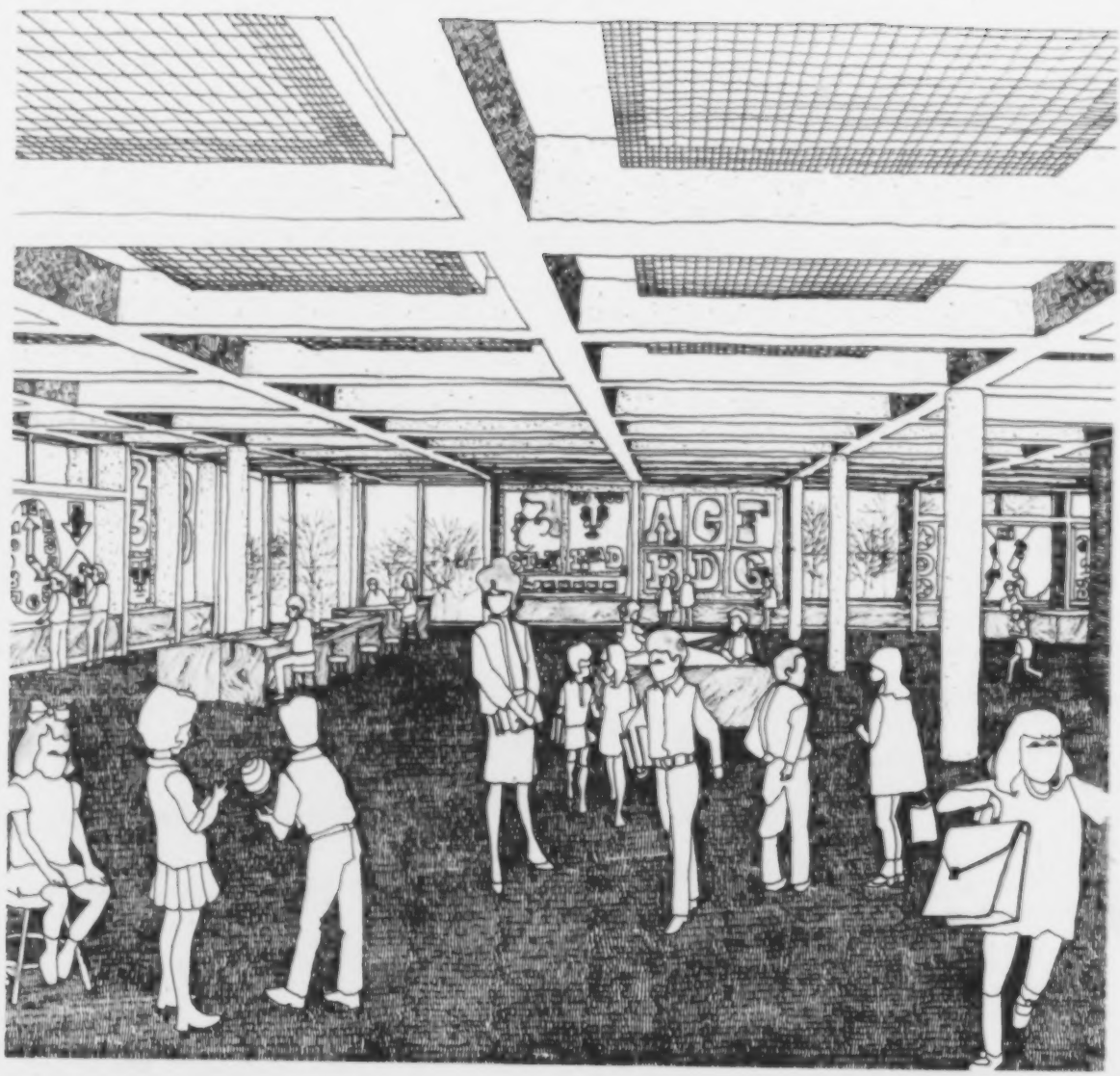

CLASSROOM
CLASSROOM
ART ROOM
CONFERENCE
CLASSROOM
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LIBRARY
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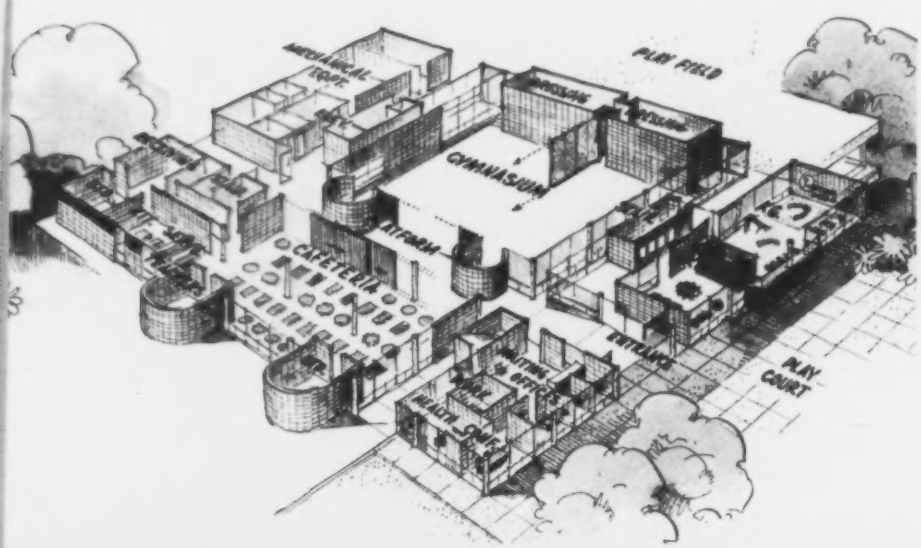
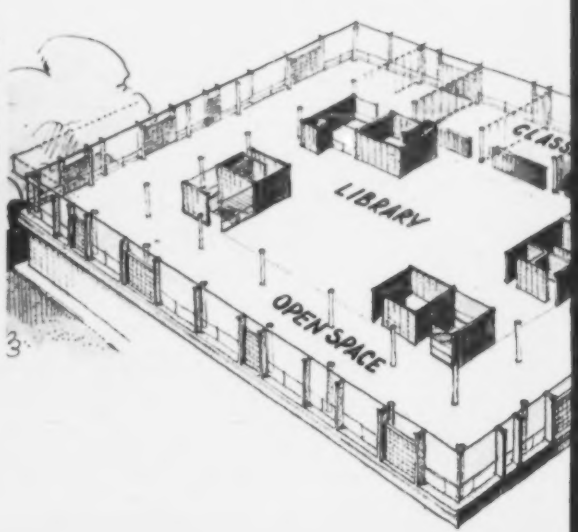
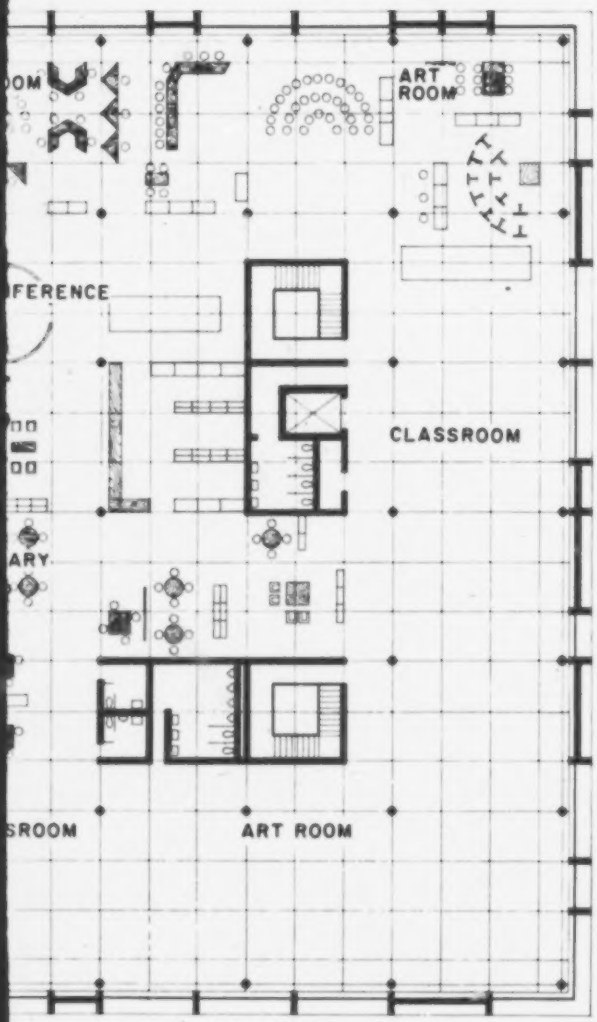
ART ROOM

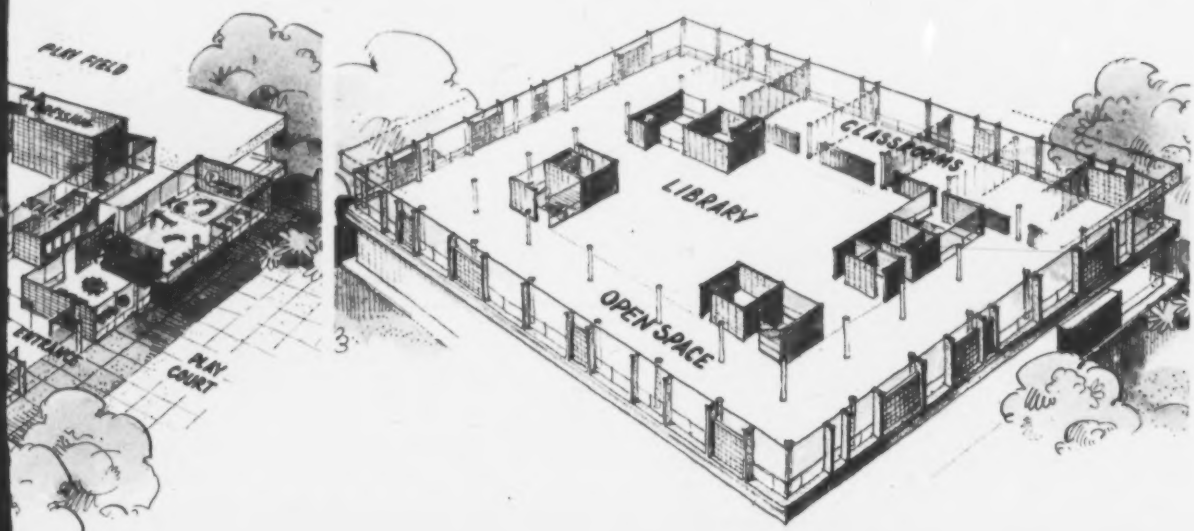
upper lev


MECHANICAL ROOM
PLAY FIELD
GYMNASIUM
CAFETERIA
ENTRANCE
PLAY COURT


LIBRARY
OPEN SPACE


ART ROOM
CLASSROOM
ART ROOM

upper level


PLAY FIELD
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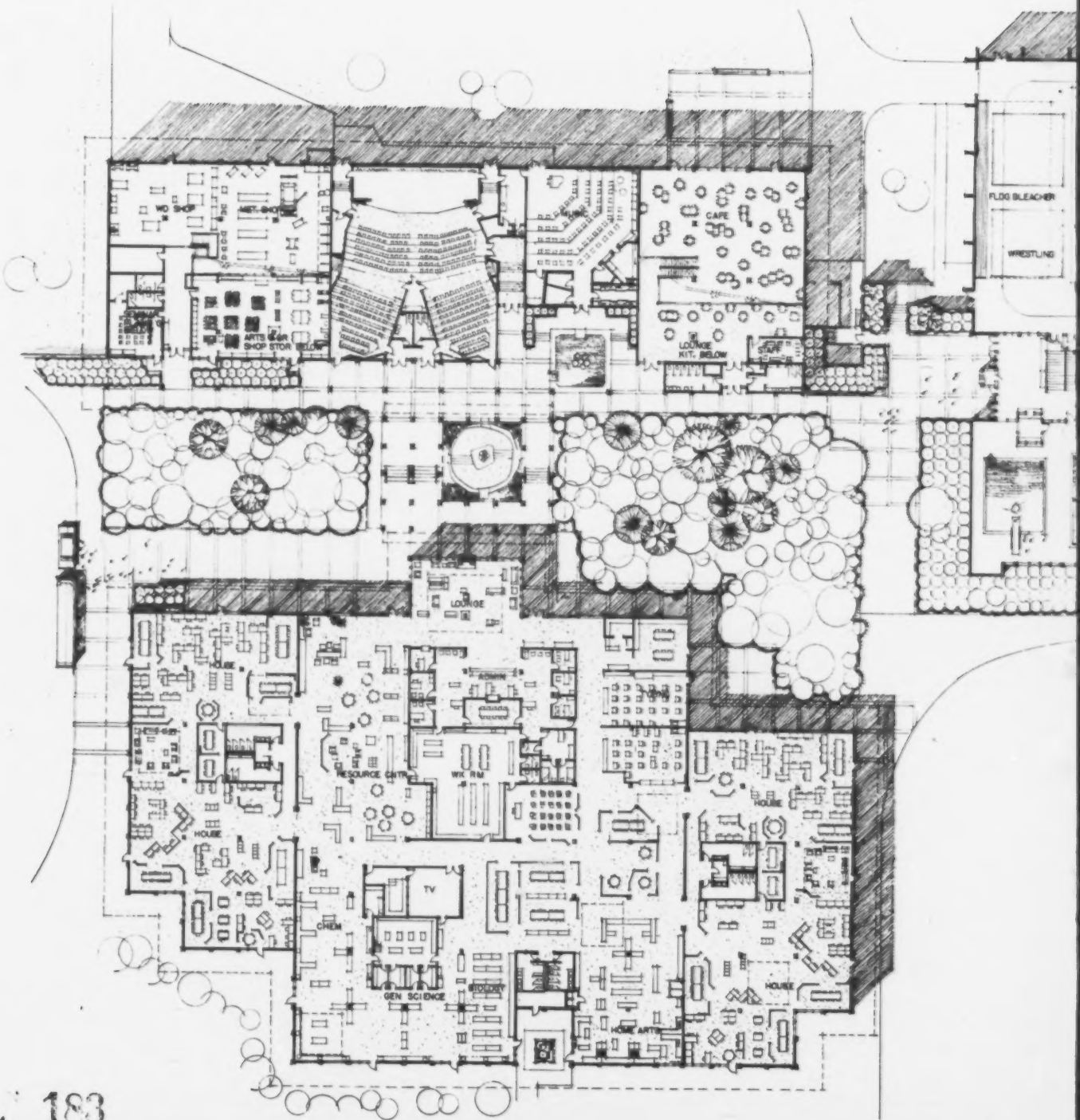
PLAY COURT
CLASSROOMS
LIBRARY
OPEN SPACE

Timberline High School
Lacey, Washington

Donald F. Burr &
John W. Gott, su



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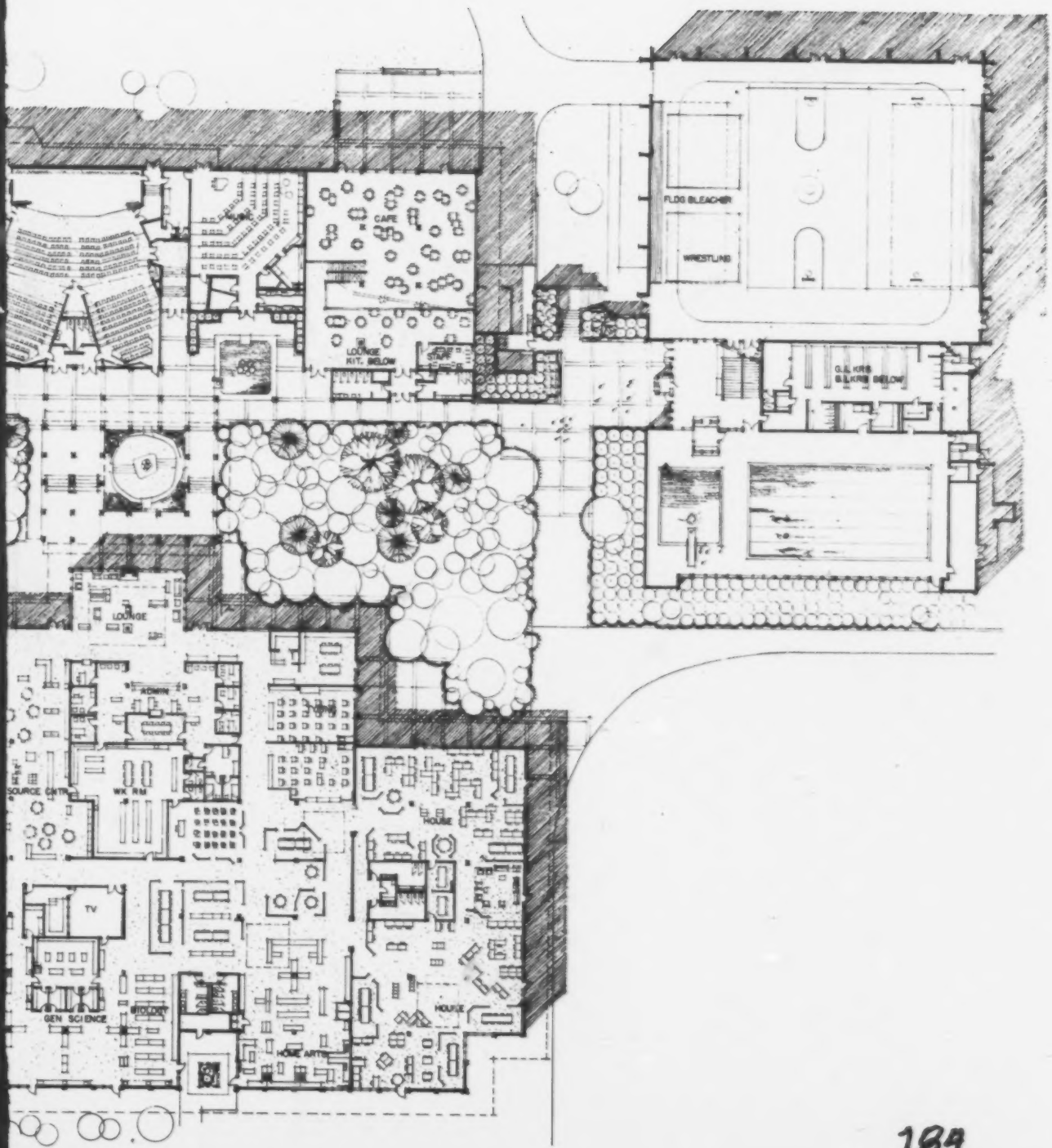
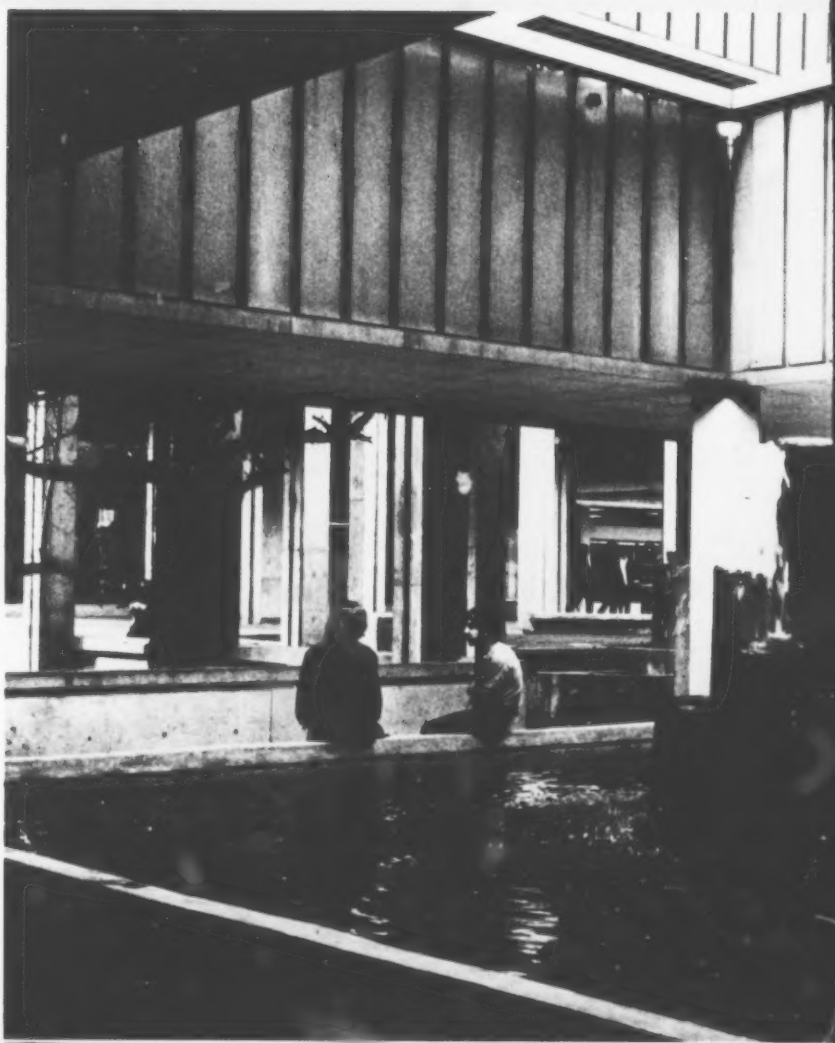
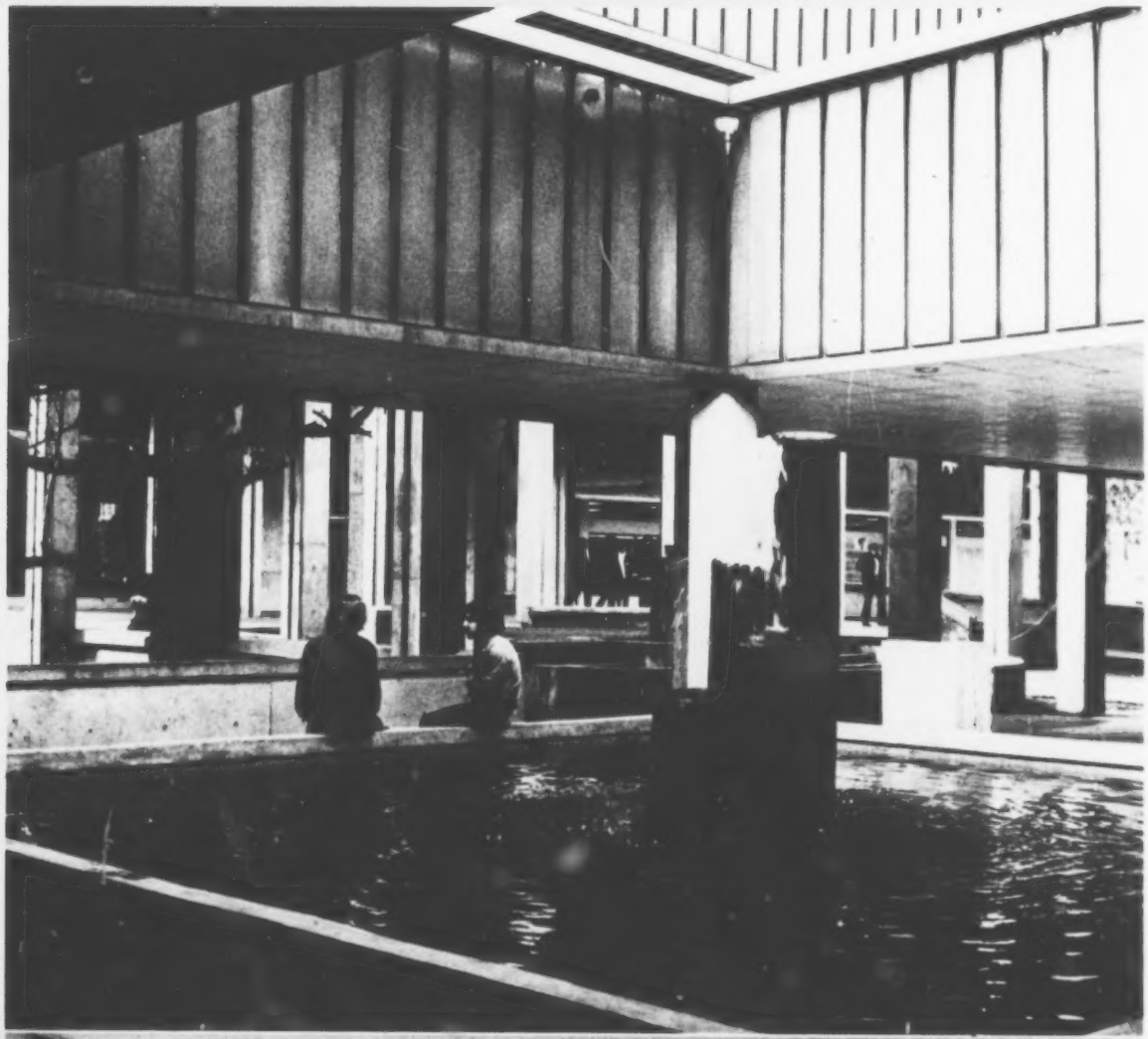
Donald F. Burr & Associates, architects
John W. Gott, superintendent

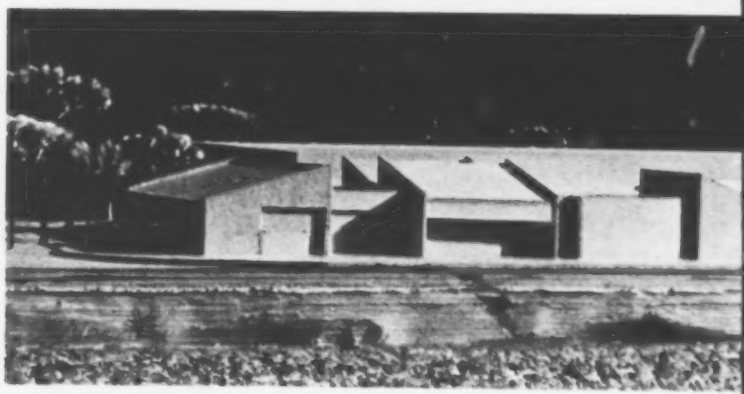


Compact, three-unit plan to accommodate an individualized high school program. The academic building is virtually all wide open space, planned around four little houses, with an administrative suite, science, and resource materials at the center. Two other units contain physical education, and cafeteria, music, arts and shops.

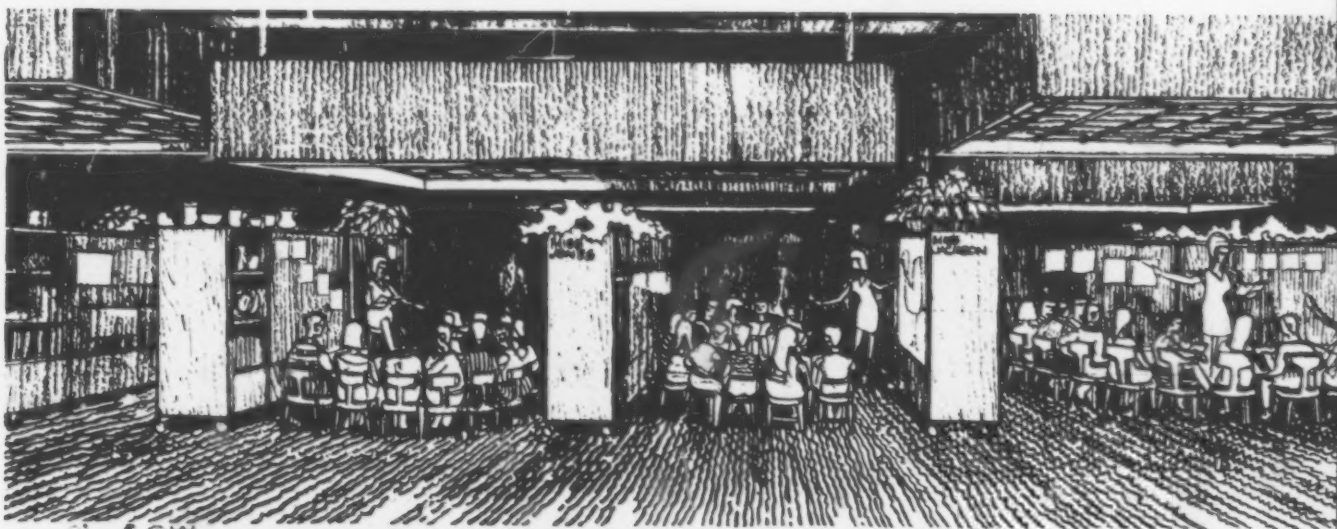




Bear Creek Elementary School
Boulder, Colorado



Elementary school with basically wide open central area for the equivalent of 16 classrooms and a large instructional materials center. Around the periphery of this open space are more committed or closed spaces, including laboratories, physical education, music, administration, cafeteria, and conference rooms. Academic spaces are completely flexible, allowing future changes to traditional layout if desired.



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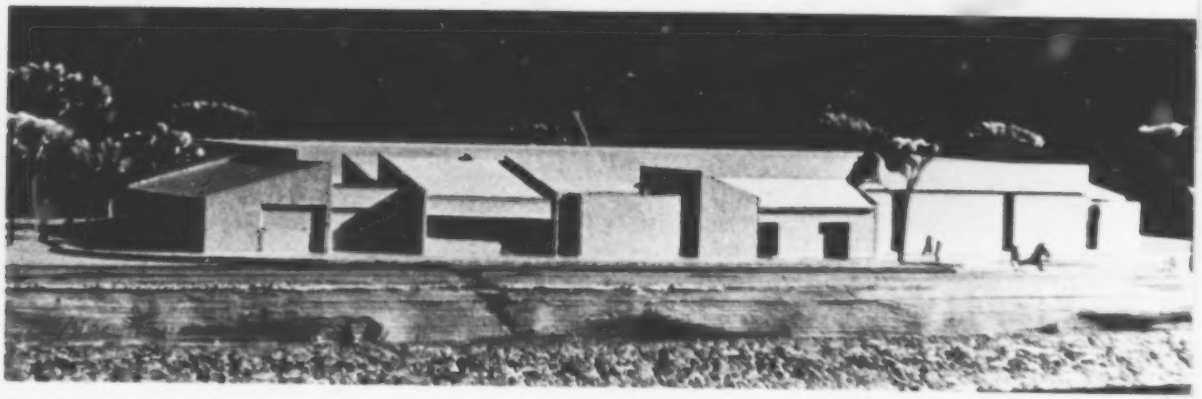
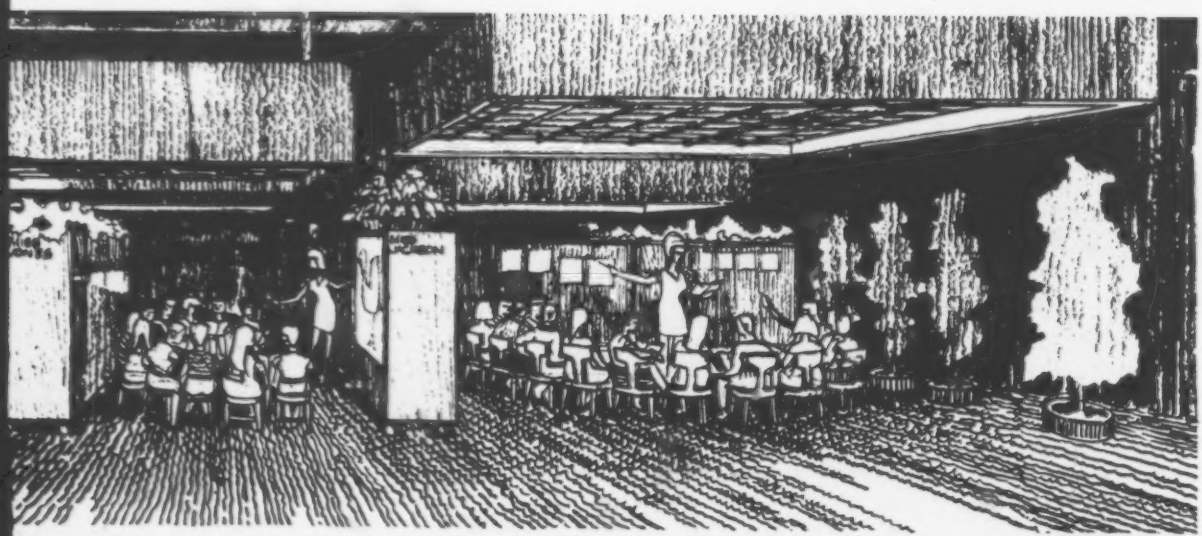
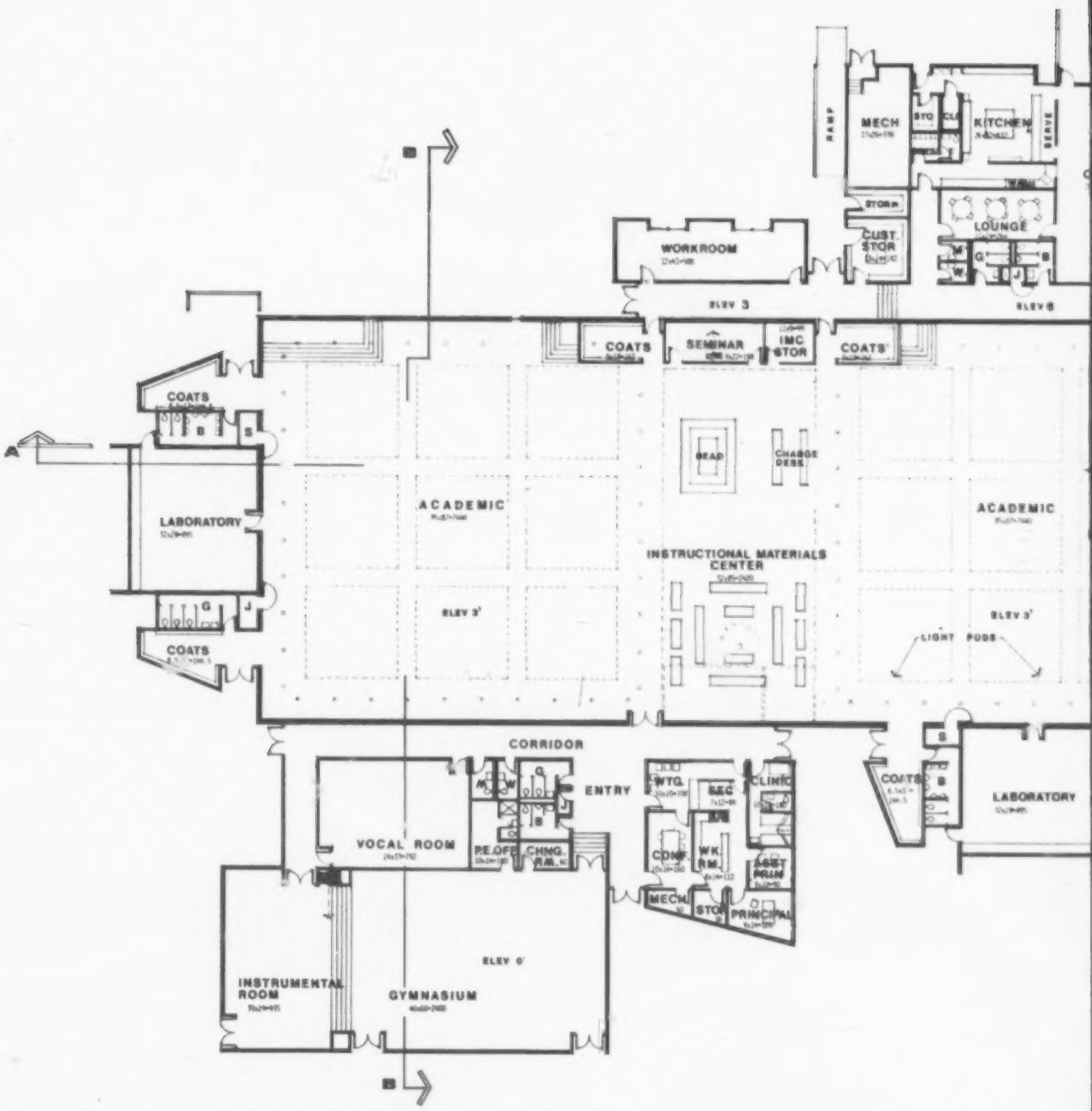
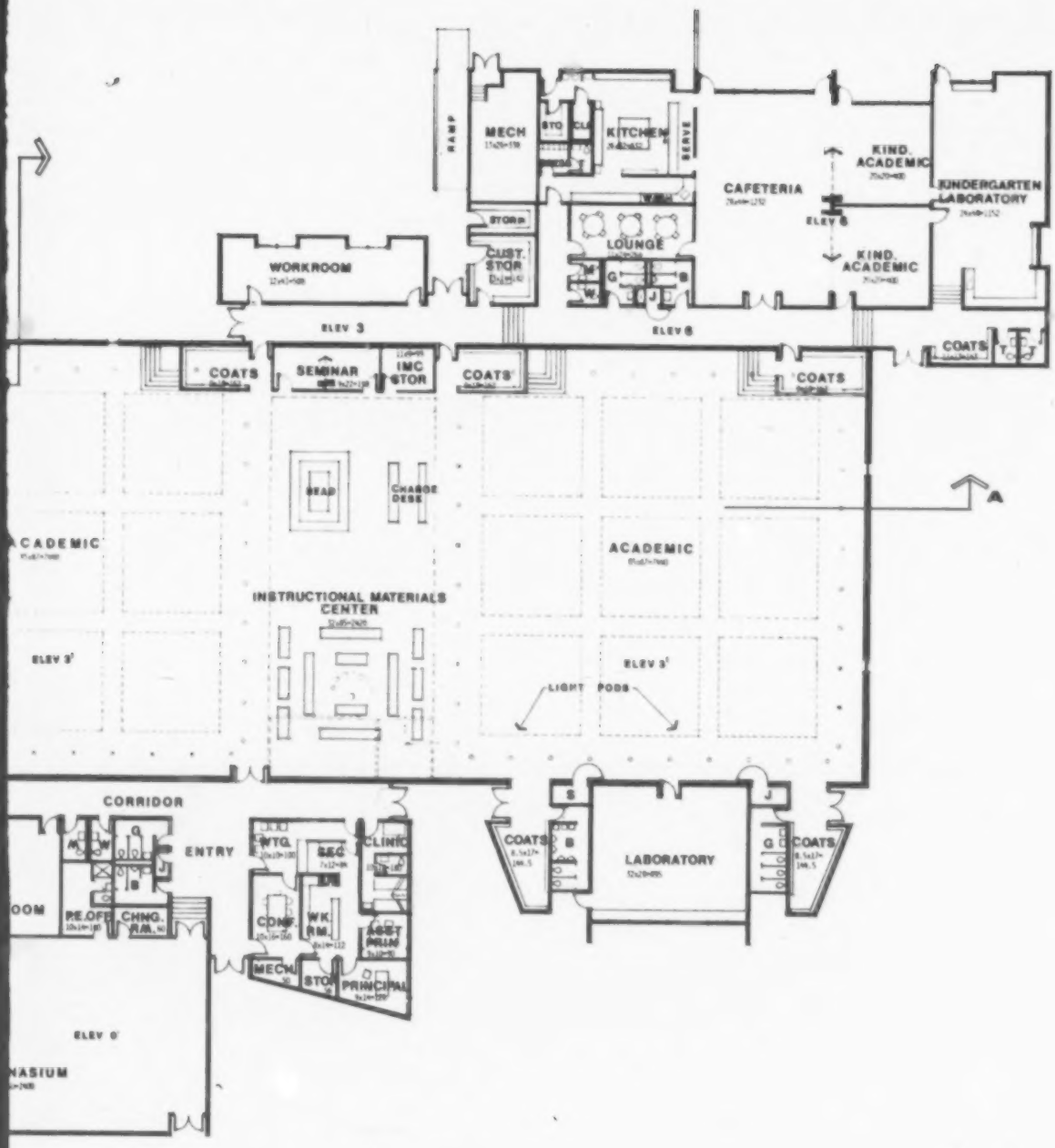


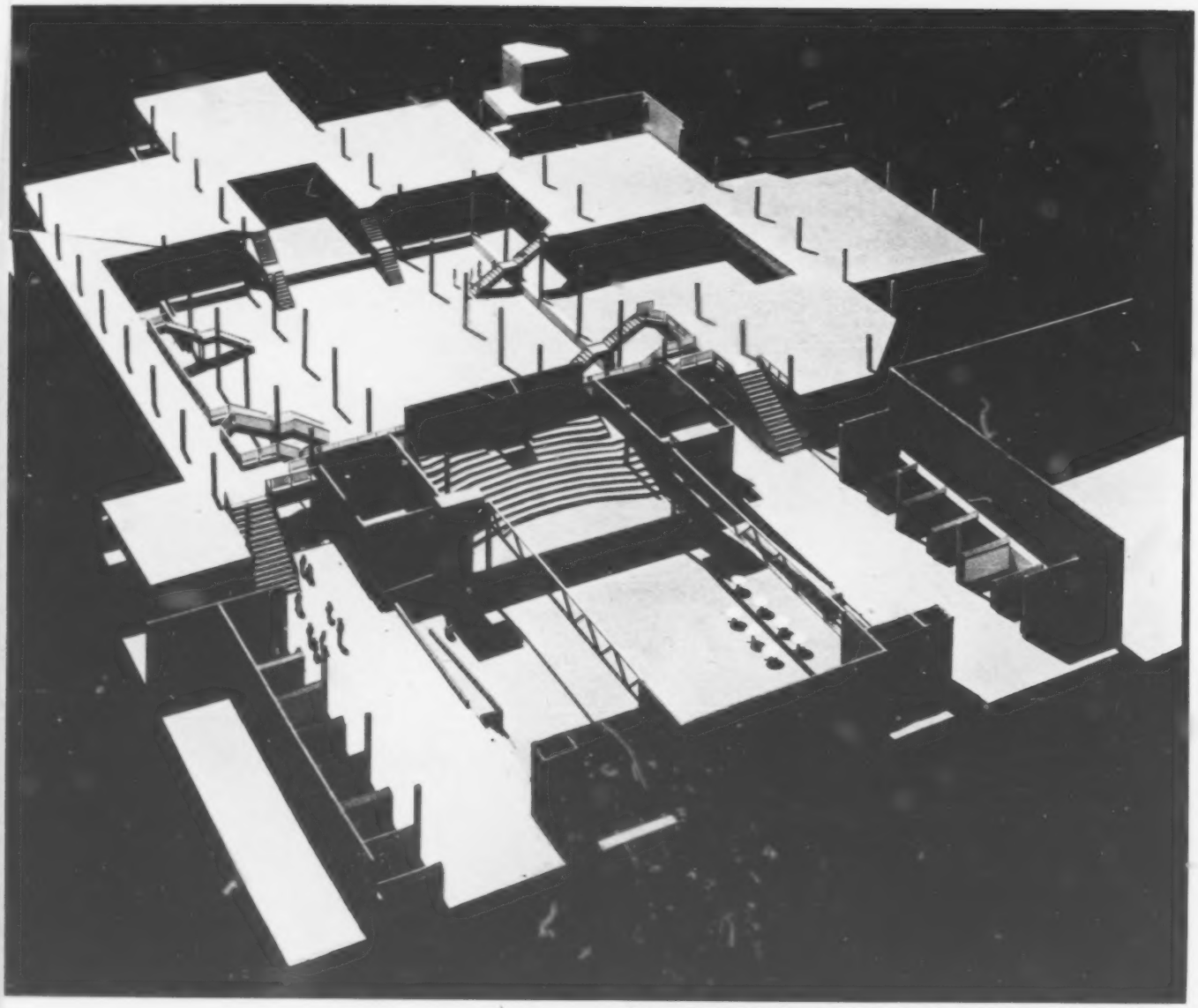




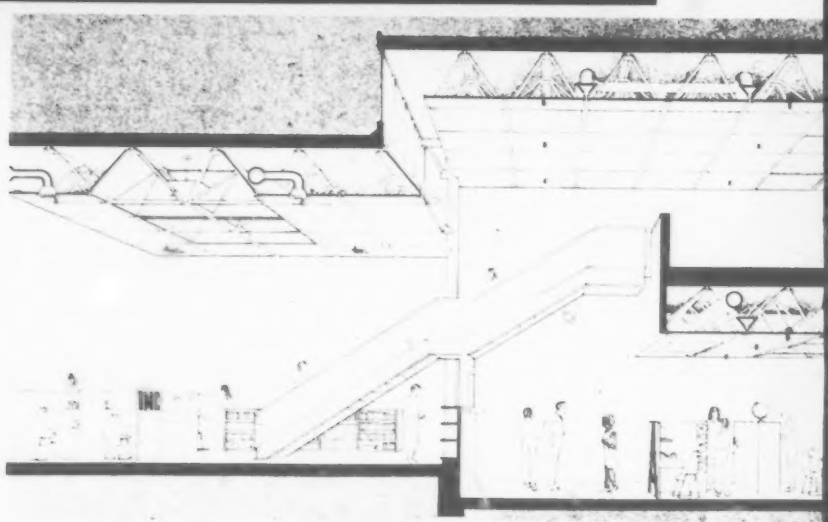
Maxwell L. Saul & Associates, architects
Barnard D. Ryan, superintendent

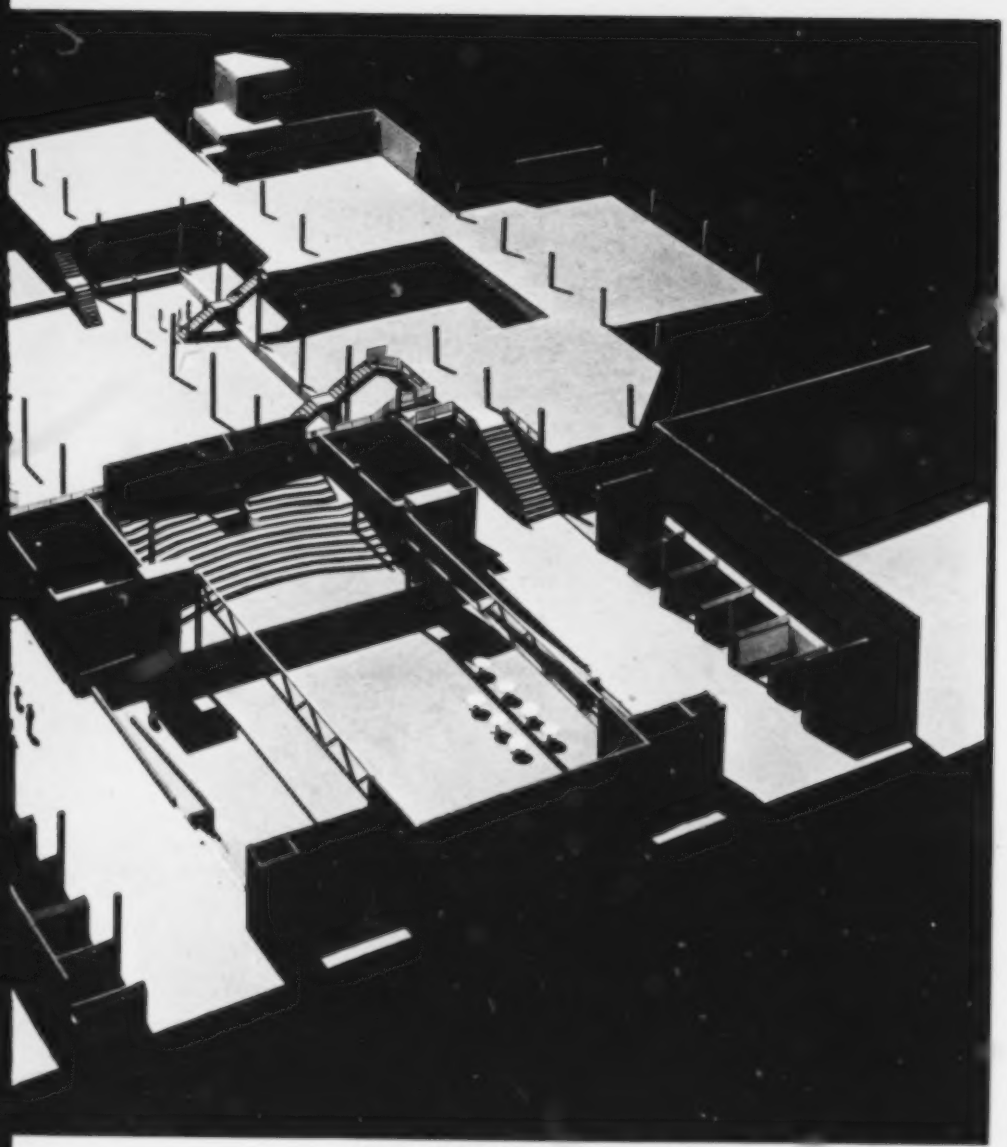


Maxwell L. Saul & Associates, architects
Barnard D. Ryan, superintendent

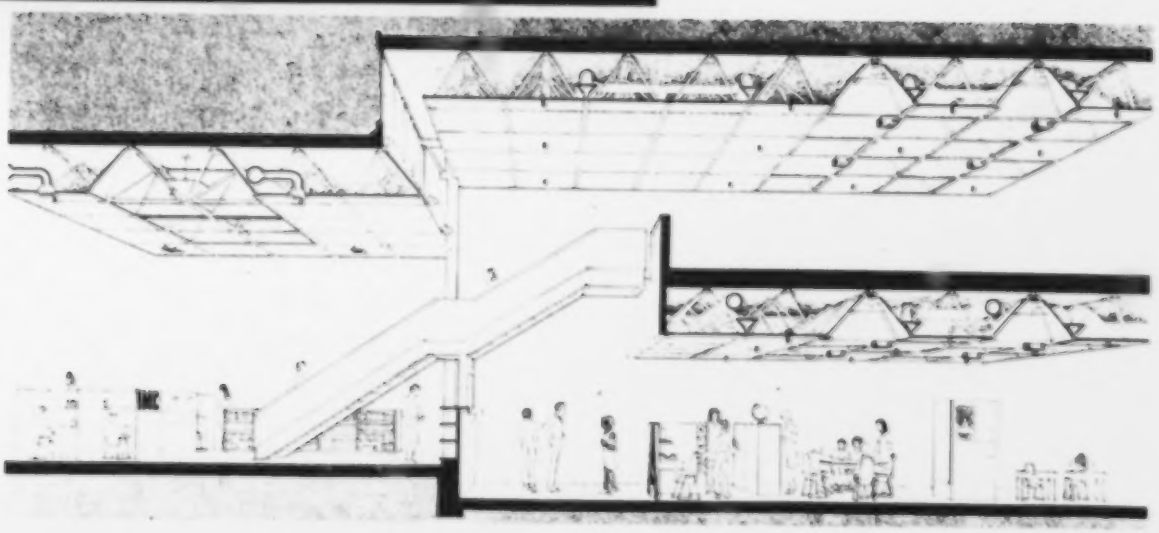


Intermedia
Branford,

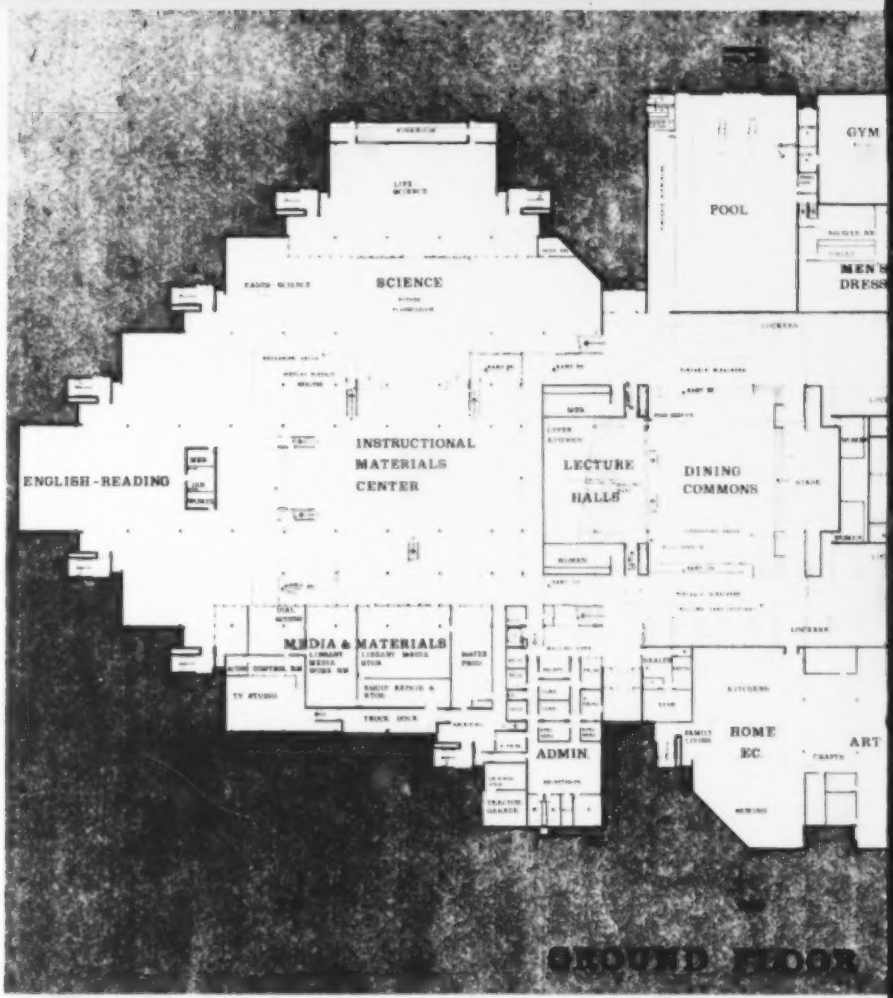


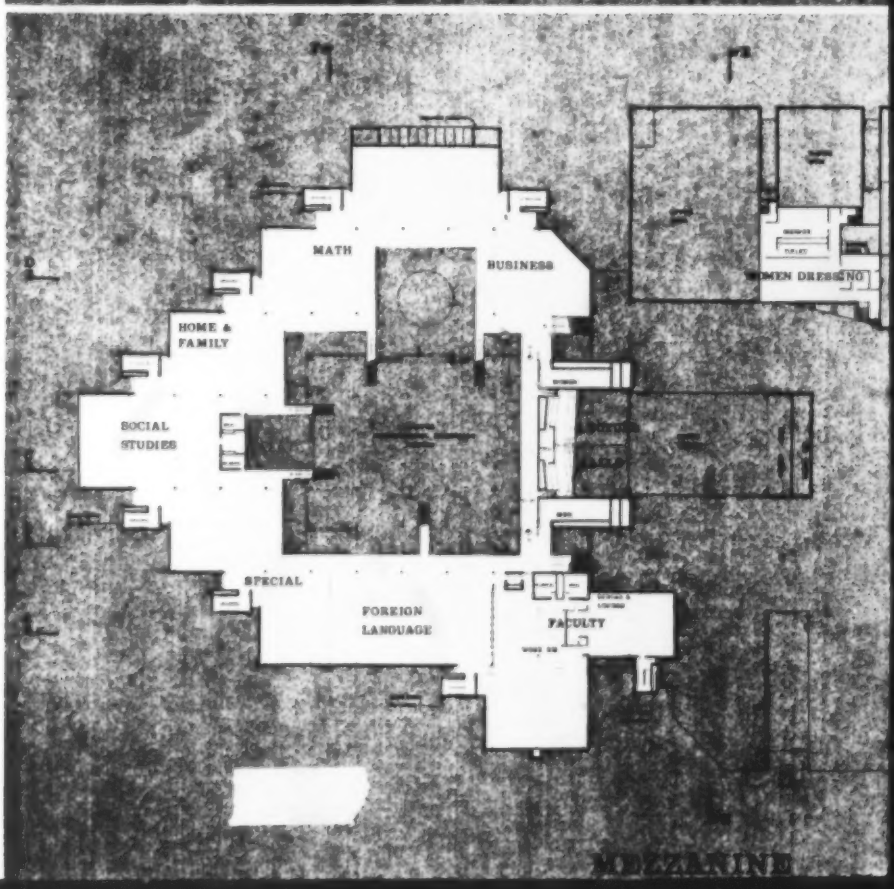


Intermediate School
Branford, Connecticut

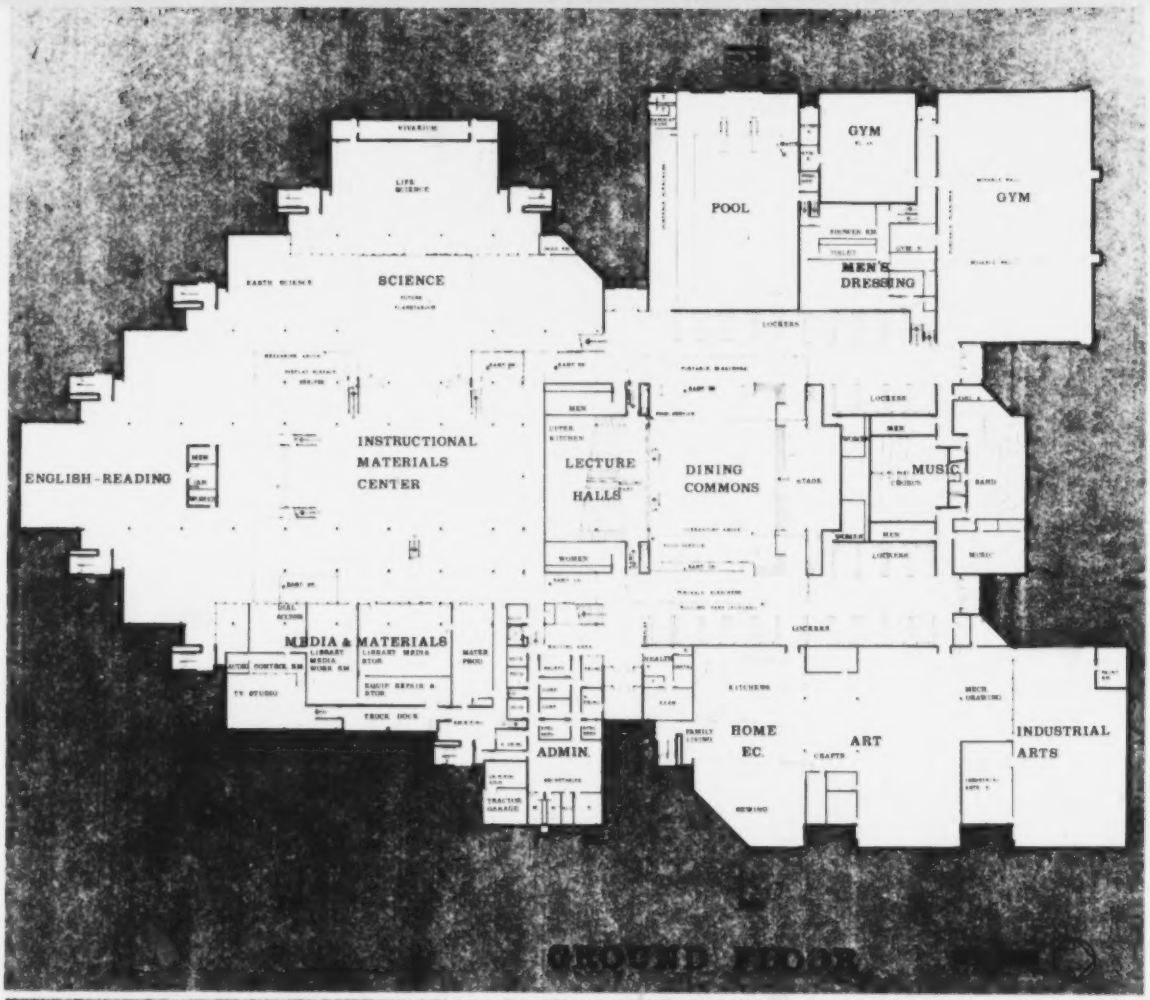


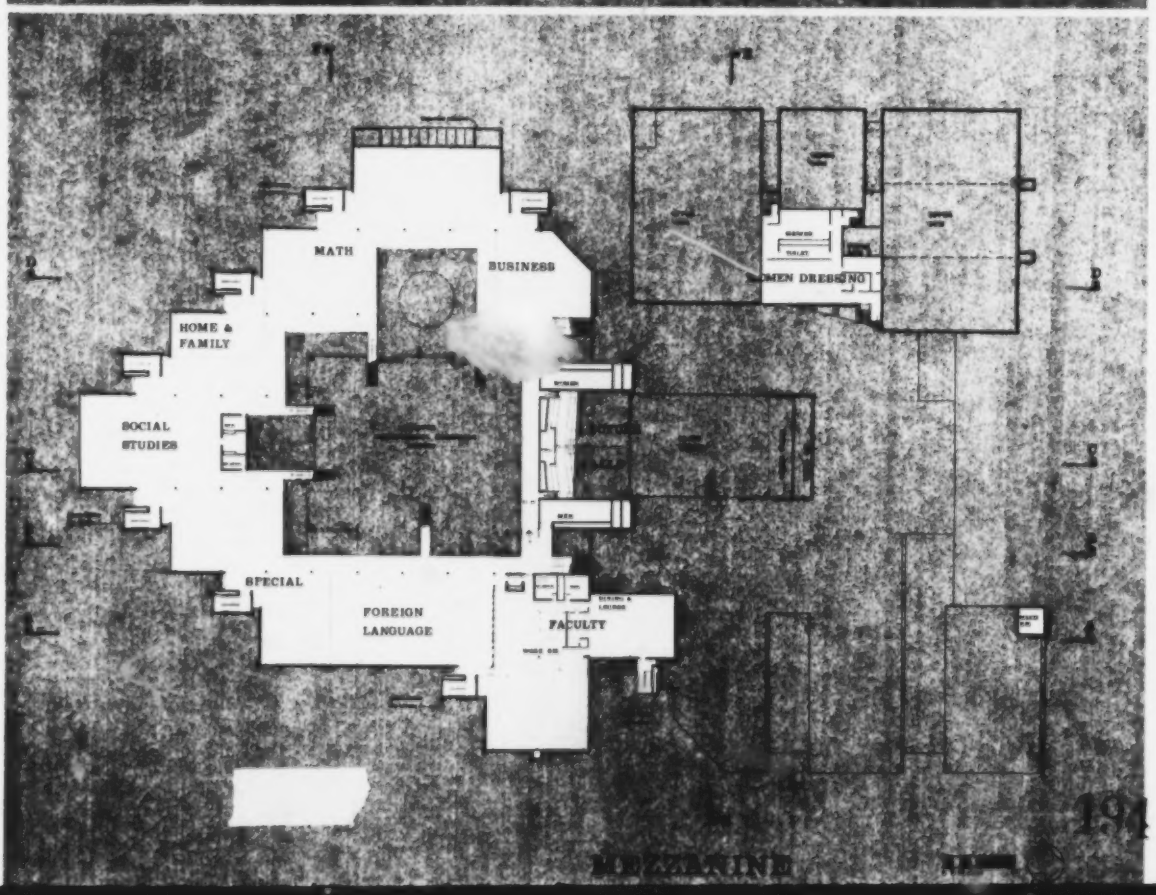
Compact, 2,000-student intermediate school to serve grades 5-8. Large instructional materials center is the heart of the school and serves two levels of open space academic learning areas. Adjunct facilities such as swimming pool, gymnasium, dining and auditorium are planned for community use. These facilities as well as home economics, arts and shops, and administration are in more well defined spaces.



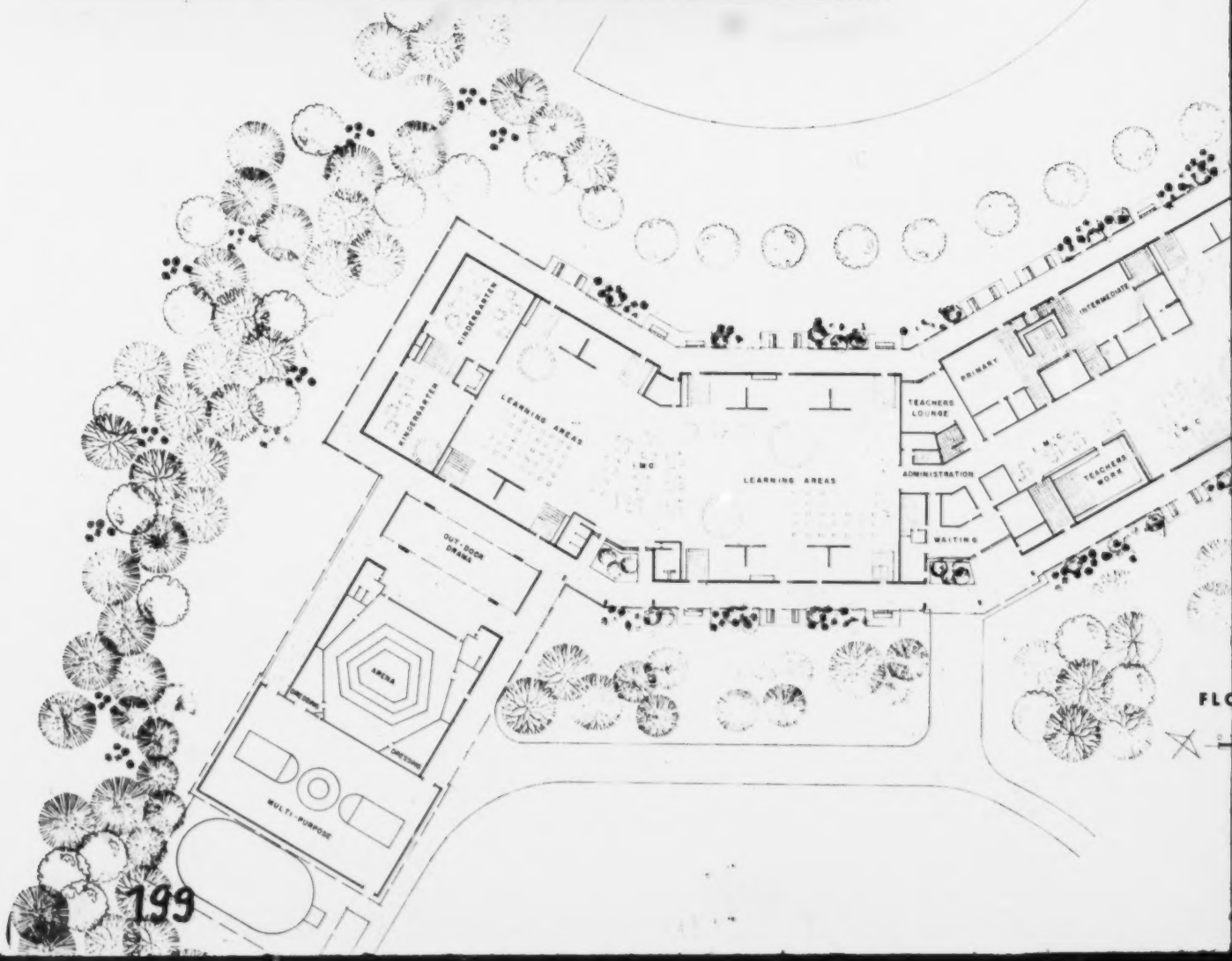


Carlin, Pozzi & Associates, architects
Ernest E. Weeks, superintendent

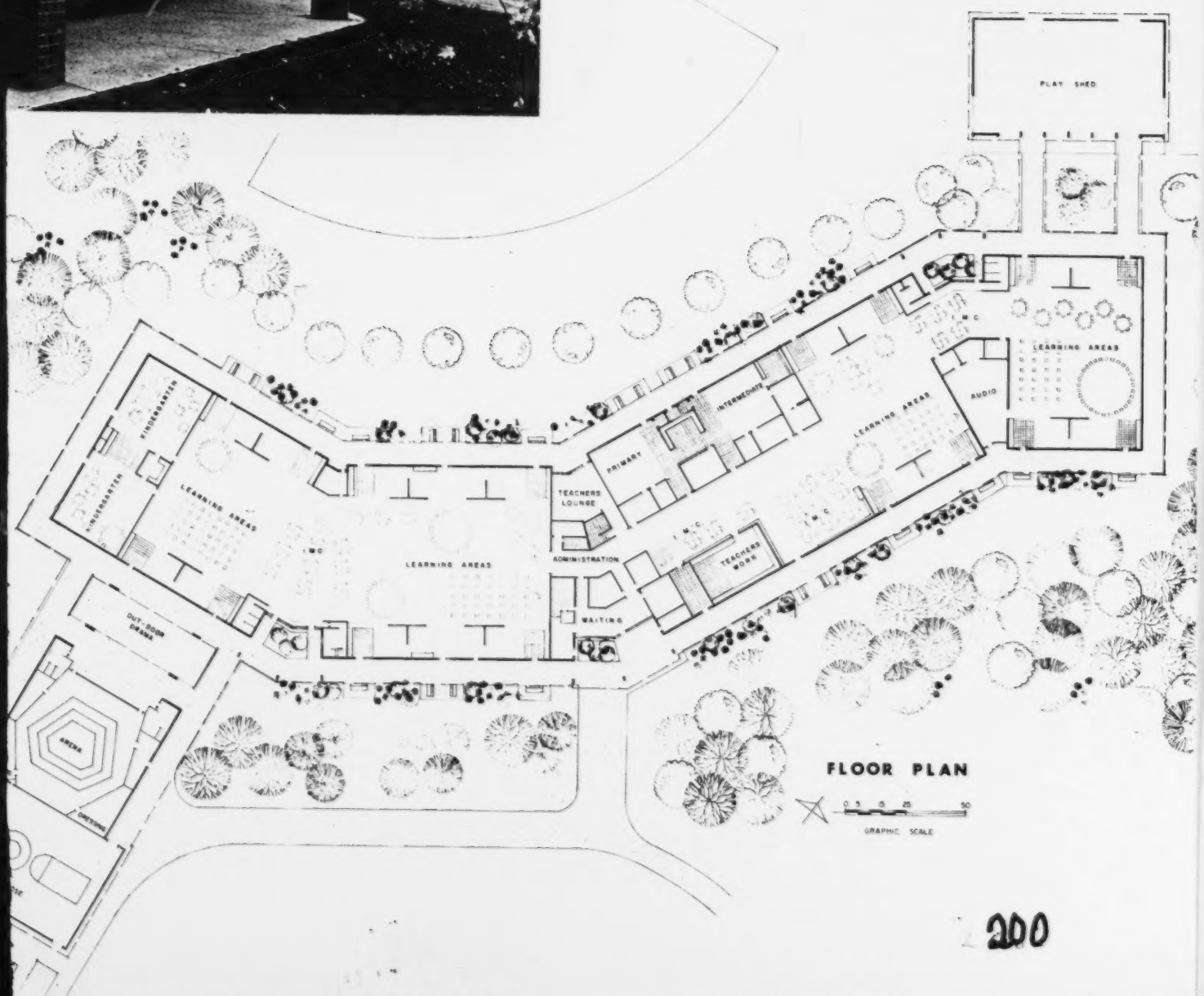

GYM
POOL
GYM
SCIENCE
MEN'S DRESSING
INSTRUCTIONAL MATERIALS CENTER
ENGLISH-READING
LECTURE HALLS
DINING COMMONS
MUSIC
MEDIA & MATERIALS
ADMIN.
HOME EC.
ART
INDUSTRIAL ARTS
GROUND FLOOR


MATH
BUSINESS
HOME & FAMILY
SOCIAL STUDIES
SPECIAL
FOREIGN LANGUAGE
FACULTY
MEZZANINE

Lake Dolloff E
Federal Way, W



Lake Dolloff Elementary School
Federal Way, Washington

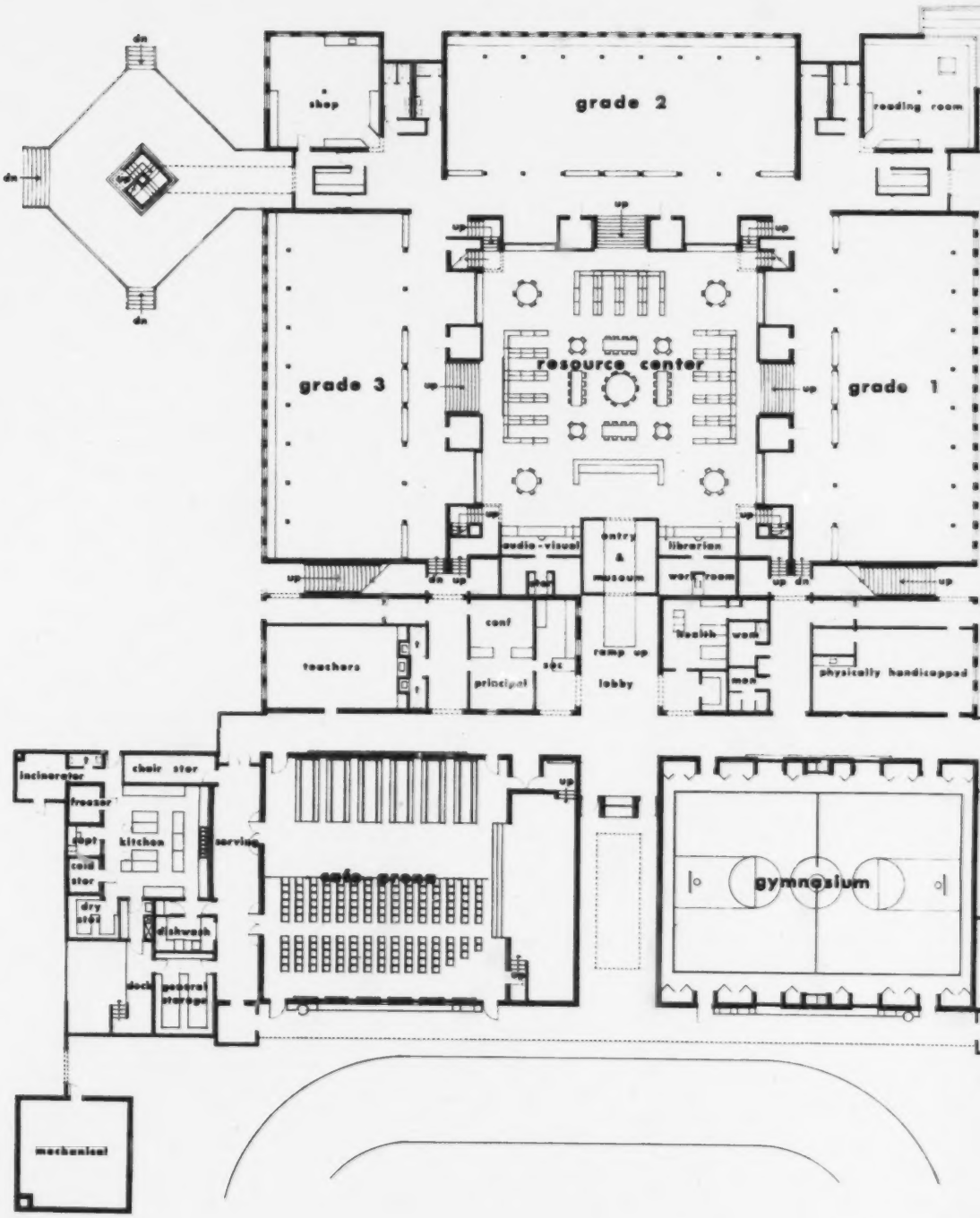


FLOOR PLAN

200

An outdoor-oriented elementary school using exterior circulation and extensive use of a large wooded site. Layout itself permits delineation of areas, with administration at center, and instructional materials strategically interspersed among open learning areas. Special purpose facilities isolated for community use.

Seifert, Forbes & Berry, architects
Murray A. Taylor, superintendent



Bancroft Elementary School
Andover, Massachusetts

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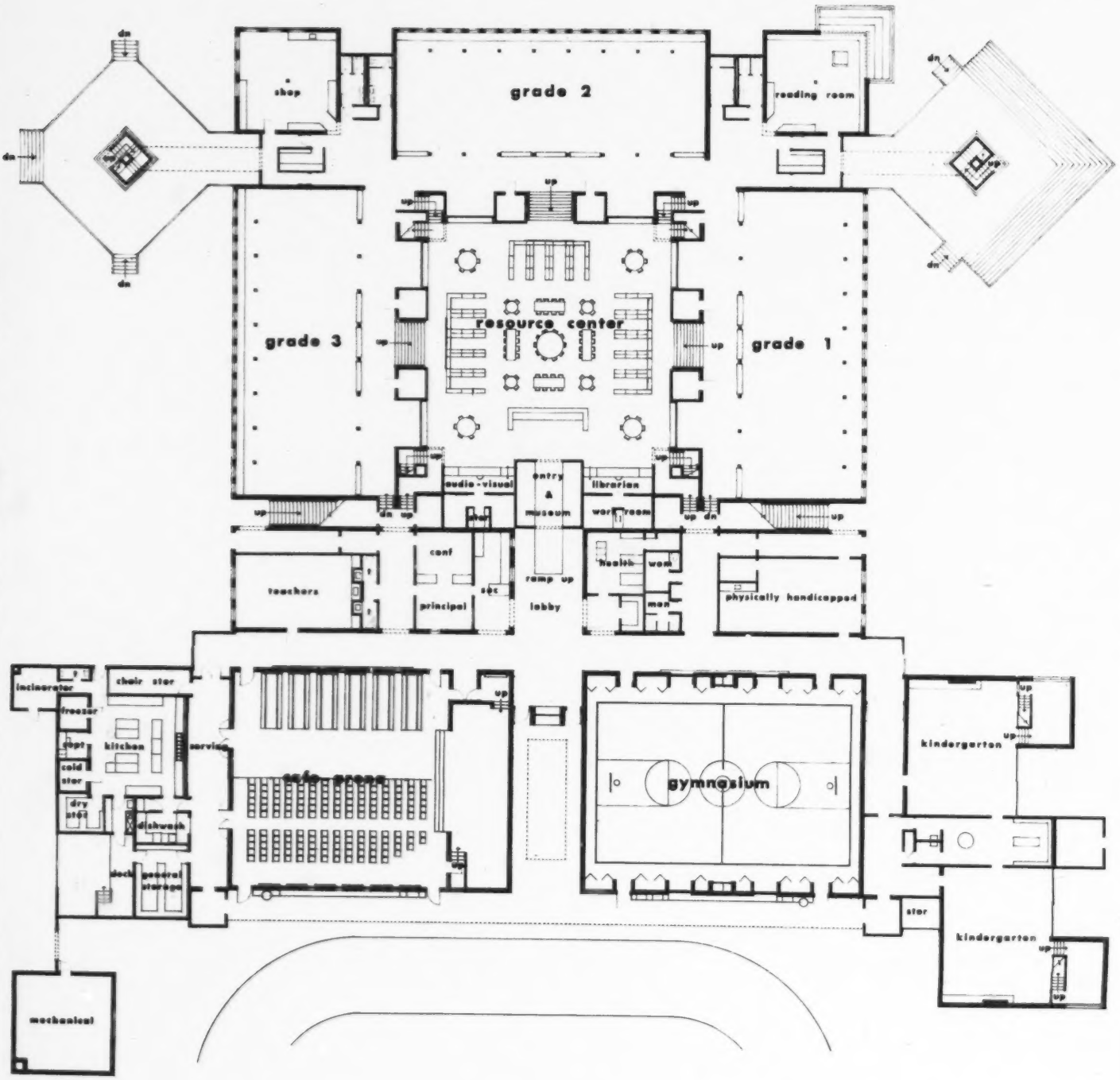
grade 2
shop
reading room
grade 3
resource center
grade 1
audio-visual
entry
museum
librarian
work room
conf
teachers
principal
sec
ramp up
lobby
health
wom
men
physically handicapped
incinerator
freezer
dept
cold stor
dry stor
kitchen
chair stor
service
dishwash
dock
general storage
auto. grade
gymnasium
kindergarten
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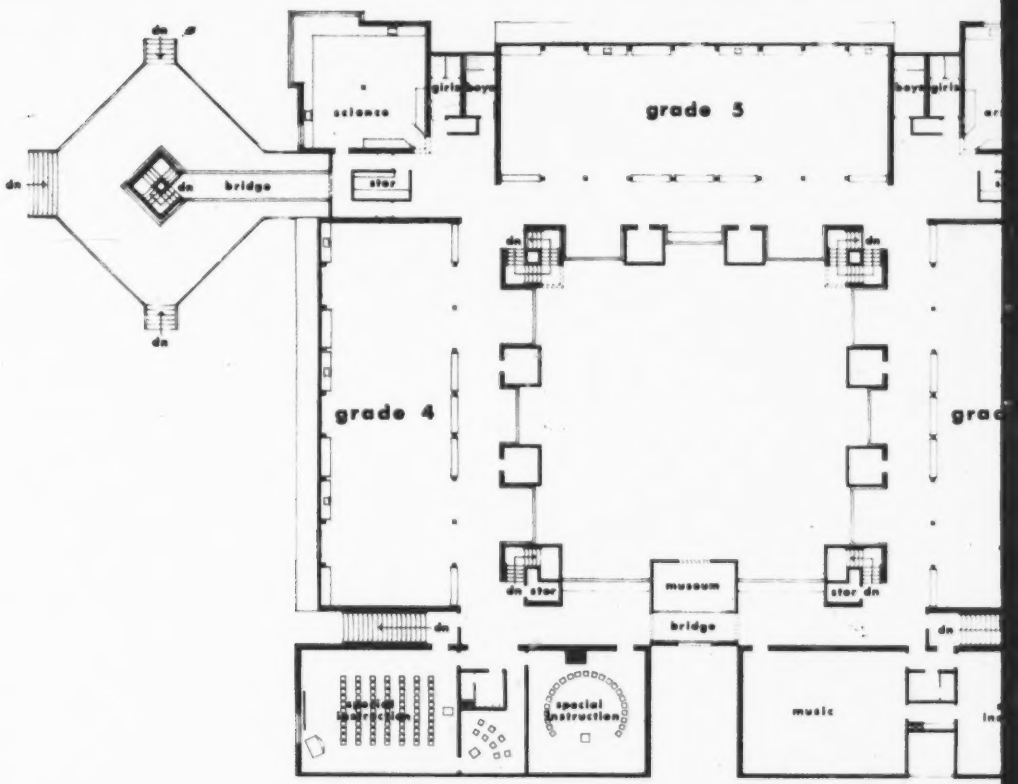
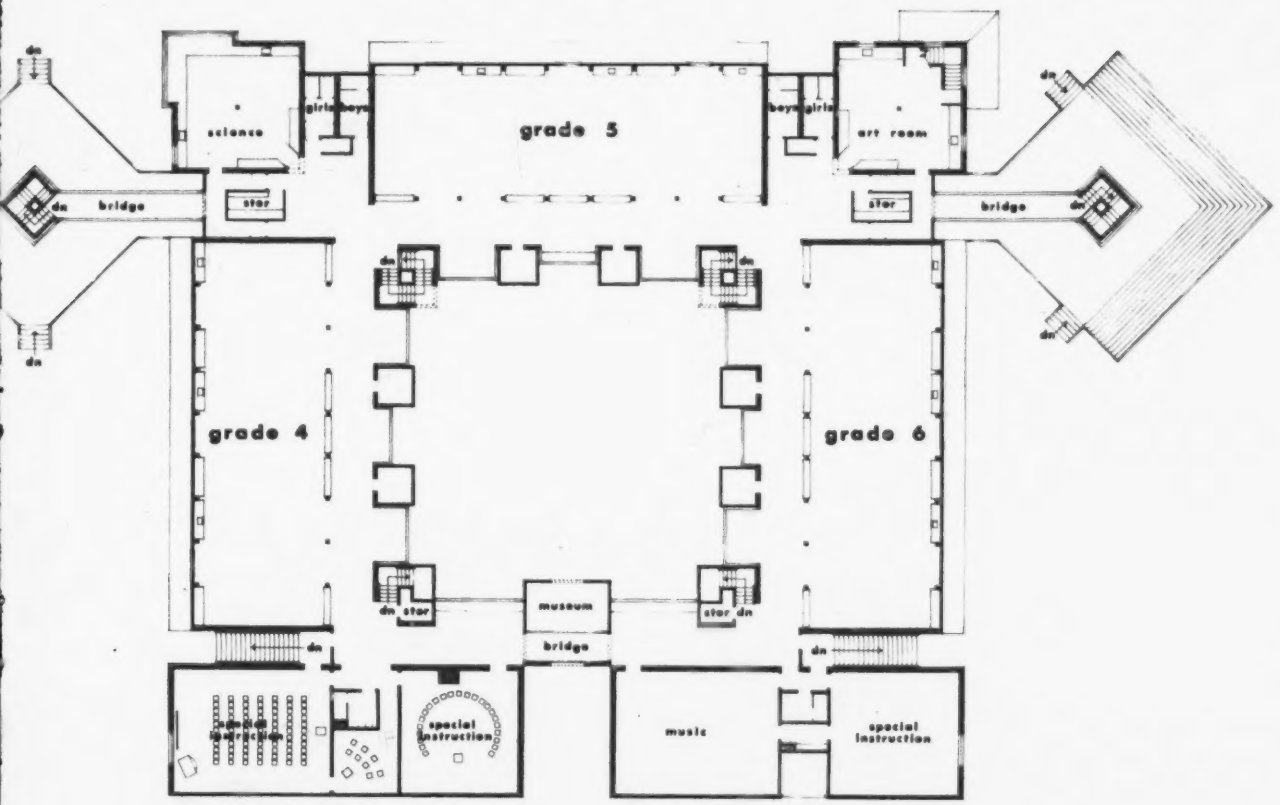


second floor

An elementary school with a distinct character and designed for special appeal to young children. Two-story academic area provides a centrally located resource center with open space instructional areas for each grade level. Special facilities such as gymnasium, cafeteria, and the kindergarten unit are grouped together at the first level.

William D. Warner, architect
Kenneth R. Seifert, superintendent



second floor

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a short history of the open space school concept

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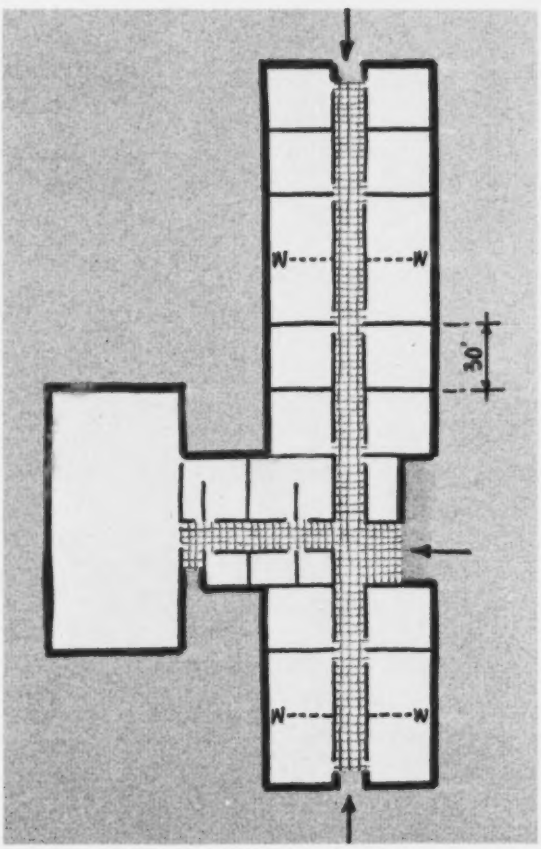
Circa 1950 In the 1950s, most schools were built with classrooms lined up along corridors. The first step towards open space was the use of an occasional folding wall.



Circa 1960 With the developm
compact plan evolv
were often located
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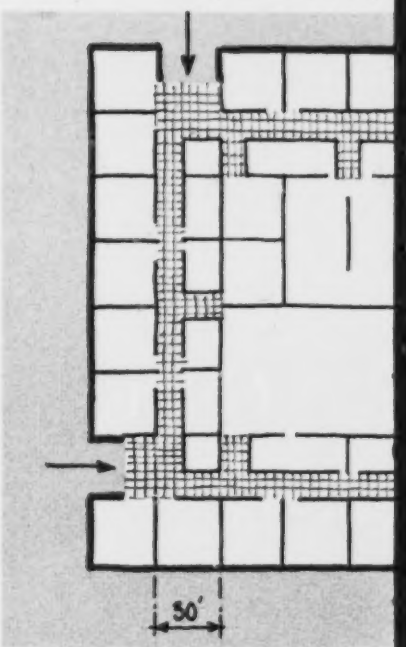
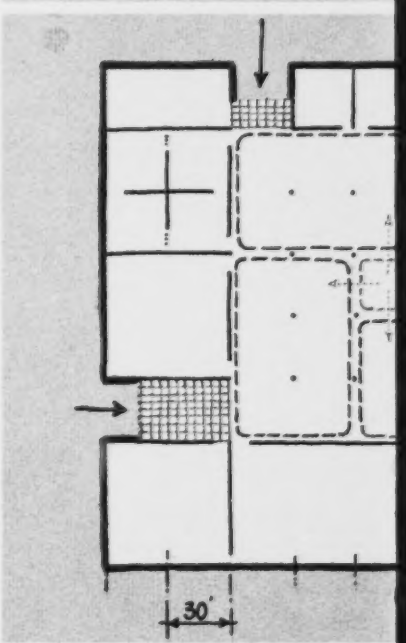
sibility of combining

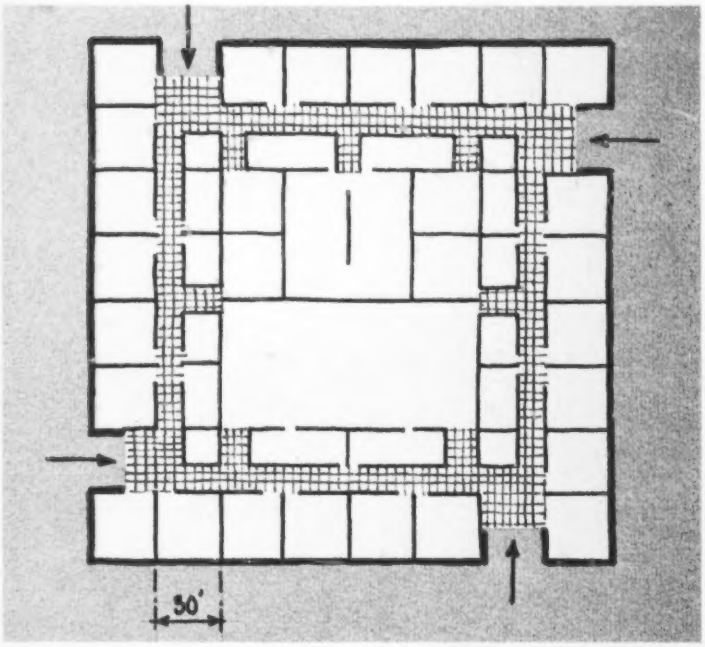


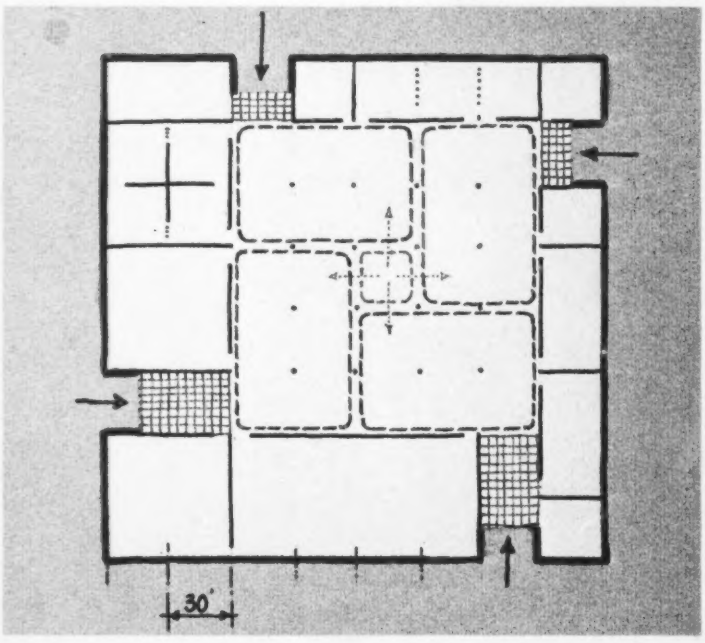


Circa 1965 New educational
teaching and indepen
mand for more flex
areas were combine
spaces, centrally loca
facilities around the p

210

Circa 1960 With the development of air conditioning, the compact plan evolved. Perimeter classrooms were often located around other central facilities. Flexibillty was still limited to the possibility of combining classrooms in rows.





Circa 1965 New educational programs, such as team teaching and independent study, created a demand for more flexible space. Instructional areas were combined in large flexible open spaces, centrally located (with more specialized facilities around the perimeter).

Circa 1970 Modular building system design helped make large flexible column-free spaces economical. Such open spaces can be subdivided as needed in the future to accommodate new educational programs.

Circa 1975 To gain maximum f
ture for education r
obstructed open spa
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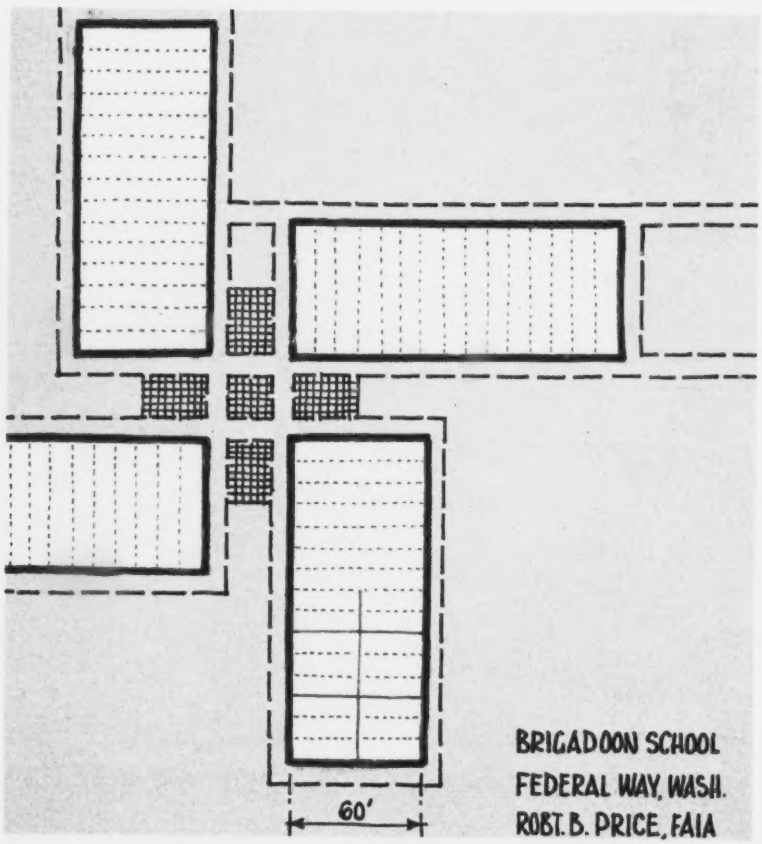
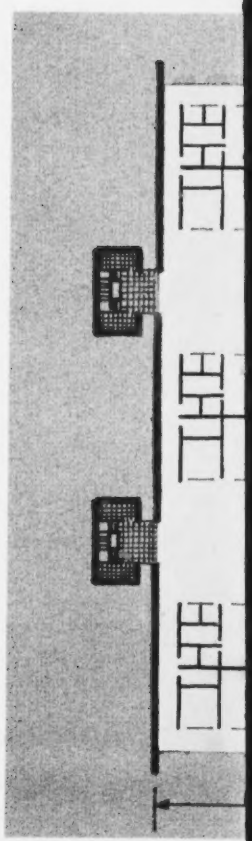
and other services.





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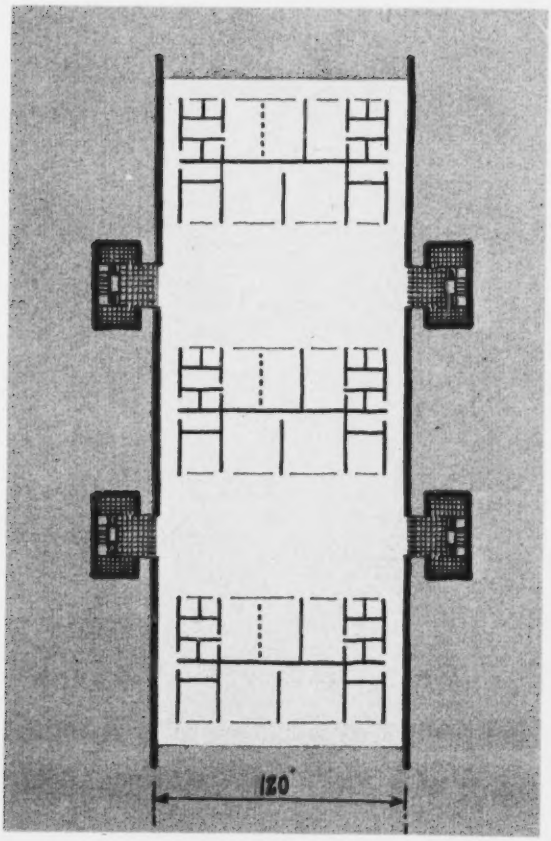
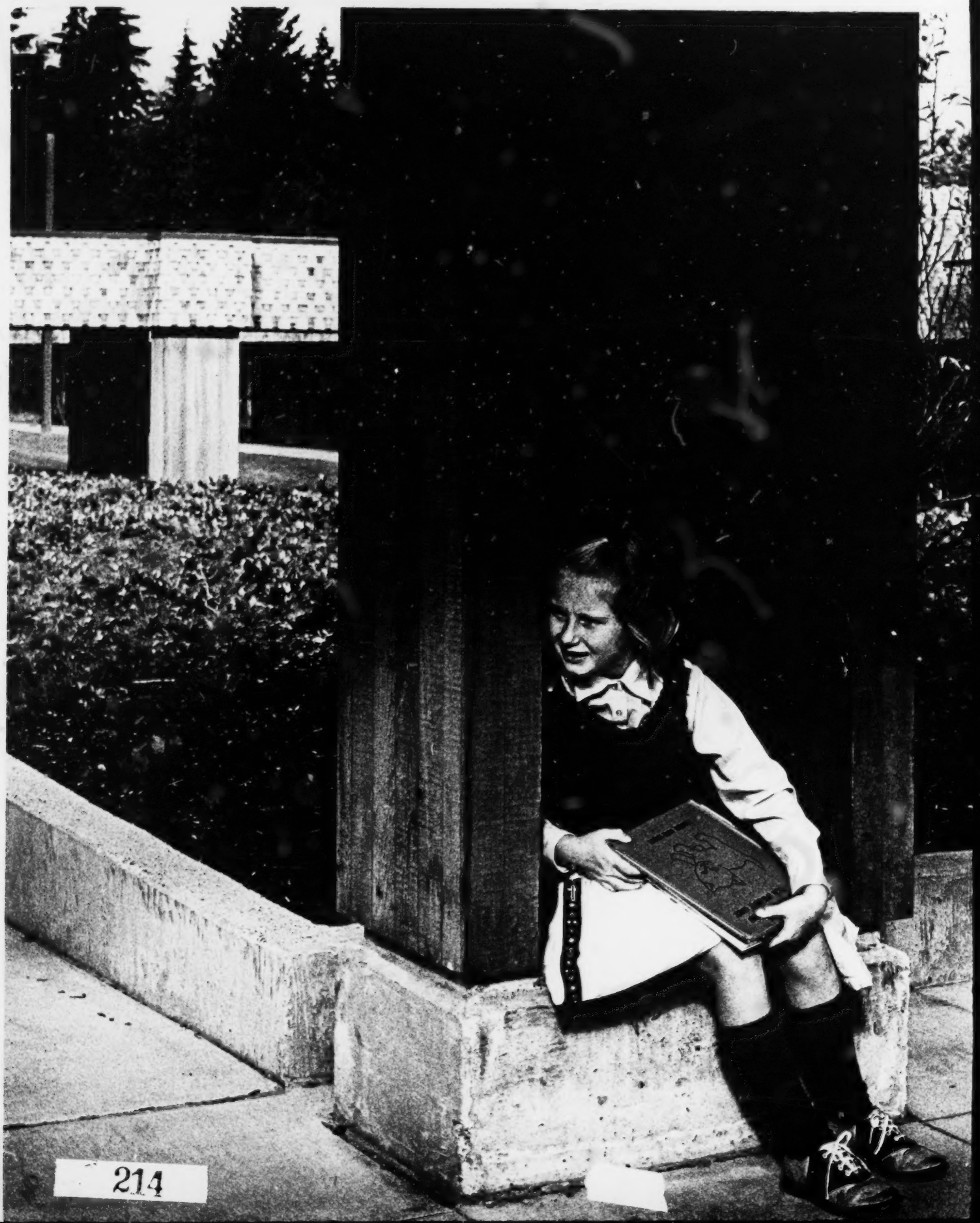
Circa 1975 To gain maximum flexibility, tomorrow's structure for education may provide completely unobstructed open space, served by external towers for stairs, toilets, mechanical equipment, and other services.



N SCHOOL
WAY, WASH.
ICE, FAIA



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Victor D. Langhart, partner in charge

Cherry Creek, Colorado, Public Schools
Edward C. Pino, superintendent

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Victor D. Langhart, partner in charge

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William C. Haldeman, architect
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Becky Young, photographer

Lamar Kelsey & Associates

Paul Klapper School
Flushing, New York
Caudill, Rowlett & Scott, architects
Harvey B. Scribner, chancellor
John Bintliff, photographer

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Federal Way, Washington
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Murray A. Taylor, superintendent
Morley Baer, photographer

Primary School
Sidney, New York
Warren H. Ashley, architect
Howard E. Lynch, superintendent
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Ralph D. Peterson & Associates, architects fo
Edward C. Pino, superintendent
Courtesy Educational Facilities Laboratories,
New Life for Old Schools

Taylor Elementary School
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Allen J. Dickey, architect for original school
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